

# Test Equipment

Issue 26







17th Edition
Pats
Thermal Imaging
Power Analysis
Multimeters
Clamps

Light
Sound
Temperature
Humidity
Earth Testers
Gas

Calibration
Hire
Service
Training

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#### Who we are

Instrotech is an authorised distributor for a wide range of electrical & environmental test equipment from many test equipment manufacturers.

Founded in 1984, our staff have many years' experience identifying customers' needs and providing appropriate solutions.

We believe selling the right piece of test equipment for the job within the constraints of your budget ensures repeat business. Our customers range from self employed craftsmen to government departments and multinationals.

We cater for all electrical testing applications from 17th Edition & PAT Testing to High Voltage & Power Analysis. Our test equipment range is complemented by back-up services including calibration & repair, Training Courses, Test Equipment Hire & Telephone Support.

#### Hire

Hiring test equipment means you get the right tool for the job, without having to worry about high purchase prices, maintenance costs or cash flow. Hiring allows you to expand the range of services you can offer your customers, without a large outlay in costs, maximising your profits and maintaining good customer relations.

When you need equipment for that one-off job, or if you are thinking of purchasing a particular product and wish to "try before you buy", hire is the answer. You can rely on Instrotech to get you the right product at the right price. **Go to page 9 for more information.** 

#### **Calibration & Repair**

We provide a full calibration service for all types of test equipment, with a standard turnaround time of 5 days for most items.

Our fixed price repair service, available for many items, allows you to confidently assess the cost and make a decision about repair or replacement, without waiting for a quote.

Visit www.instrotech.com/calibration.htm



Testimonial by Gordon C, IT Assistant
"Thank you for the service over the last few
months, having dealt with lots of different
calibration houses during the last five years,
Instrotech certainly appears to be a very reliable
company compared with others."

#### **PAT Training**

Instrotech's PAT training course is ideal for those who have never done any sort of testing before, as well as qualified people looking to start PAT testing, or wanting a refresher.

There is no substitute for hands on practical training when it comes to PAT testing which is why our PAT training course gives you both the knowledge and practical training required to carry out testing competently and efficiently. This face to face, hands-on training cannot be gained from reading a book, or watching a DVD.

Whether you want to start your own PAT business, or are in charge of carrying out the PAT testing on behalf of your company, our PAT training course will suit your needs.

For more information contact our sales team on 01923 442244 or go to www.instrotech.com

#### **Payment Options**

Payment can be made by cash, cheque, credit or debit card (all major cards accepted).

30 day account facilities are also available, subject to approval.













#### Free Delivery on orders over £39

Stock orders received before 2.30pm will be despatched for next working day delivery (please allow 24 hours for calibrated orders).

Pre 10.30am and Saturday deliveries are available at extra cost. Call 01923 442244 for details.

# Portable Appliance Testers



# Seaward Primetest 50

Seaward's Primetest 50 offers an ideal solution for carrying out interim PAT checks.

For use with 240V appliances, including IT equipment, the simple push button operation and clear pass or fail indication makes it very easy to use.

- Low cost
- Battery operated handheld unit
- · Digital readout
- Clear pass or fail indication
- Performs earth bond, insulation & IEC lead tests

PRODUCT CODE: SEAPRIME50

# Seaward Primetest 100

The Seaward Primetest 100 has the simplicity of the Primetest 50, but also gives a test result, making this one of the most cost effective manual PAT testers available.

A very simple to use tester, it performs the legal minimum requirements for PAT testing.

- Low cost
- · Battery operated handheld unit
- Digital readout
- Clear pass or fail indication with test results
- Performs earth bond, insulation, equivalent leakage & IEC lead tests

PRODUCT CODE: SEAPRIME100



# Martindale HPAT500

This hand-held PAT is ideal for use where there is no convenient power socket. It's easy to use and reliable, with a simple one button, one test sequence selection, displays measured values as well as a "pass" or "fail" decision and comes complete with a mains charger

- Class I, Class II and power lead, tests insulation at 500V
- 200mA DC continuity test, with two pass levels
- Fixed pass levels
- Displays measured values and pass or fail result

PRODUCT CODE: HPAT500



# Martindale HPAT600

This hand-held PAT has 250V and 500V insulation test voltages, user selectable pass levels, easy (manual) or fast (automatic) operating mode, IEC lead test and test data storage for up to 200 appliances - equivalent to a whole day's testing. This data can be scrolled through to verify testing has been correctly done, but cannot be downloaded.

- User selectable pass levels
- · Helpful or fast operating mode
- IEC lead test
- Low current earth bond test with adjustable pass levels

PRODUCT CODE: HPAT600



# Seaward Primetest 250

A NEW innovation from Seaward. It carries out all the required tests for standard Class I & Class II appliances and also includes tests for RCDs and 3 phase appliances (extra adaptors required).

It features a one button test process for Class I, Class II & Leads, with optional test buttons for leakage, RCDs and 3 Phase testing. An improvement on the Primetest 100, adding the ability to change the pass thresholds for leakage, and change the insulation voltage to 250V.

PRODUCT CODE: SEAPRIME250



# Seaward Primetest 350

This brings you in line with the new Code Of Practice. Features Bluetooth connection to a label printer & barcode scanner and a hard wire download for making PC connections quicker & easier.

It now has a 250V insulation test option, and an RCD test function.

- Performs all 240V tests
- Adds a 250V Insulation test
- Suitable for IT equipment
- Bluetooth wireless connection
- Alphanumeric keypad
- Help screens for ease of use
- · Built-in lead limit calculator
- Integrated battery charger

PRODUCT CODE: SEAPRIME350



# Seaward Europa Plus

One of the most popular downloading testers, the versatile Europa Plus offers the full range of tests for 240V appliances.

With easy to understand help screens, and pre-programmed tests, this unit is ideal for both inhouse and commercial PAT testing

This model can be used to perform earth bond and insulation tests on 110V appliances.

- Performs all 240V tests
- Earth Bond @ 100mA,
   +/-200mA, 4A, 10A & 25A
- QWERTY keypad
- Stores up to 6000 results
- Help screens for ease of use
- Built-in lead limit calculator

PRODUCT CODE: SEAEUROPAPLUS



# **Megger PATs**

This new range of mains powered PAT testers can be used with a USB printer and barcode reader to make PAT testing even more efficient. All information is entered via a full qwerty keyboard and displayed on a high quality full colour screen.

The PAT140 has a slim line body profile and is 240V only with a low current earth bond test.

The PAT420 adds a high current earth bond test and 110V testing

The PAT450 adds a flash test.

PRODUCT CODES: MEGPAT140 MEGPAT420 MEGPAT450

# Portable Appliance Testers



# Martindale EPAT1600

Basic dual voltage manual PAT tester with IEC lead test. Suitable for testing IT equipment.

This PAT is ideal for small contractors, schools and in-house maintenance staff.

Tests 110V & 240V appliances.

- Low cost
- · Digital readout
- Earth bond: 100mA, 8A or 25A
- · Insulation test
- Fuse test
- · IEC lead test
- Simple one button operation

PRODUCT CODE: MAREPAT1600



# Martindale EPAT2100

The only dual voltage manual tester on the market to include a flash test, making it suitable for hire shops and industrial use where items are repaired.

Performs a full range of tests on both 240V & 110V appliances, with a simple push button operation.

As EPAT1600 but adds:

- Load test
- Earth leakage test
- Flash test

PRODUCT CODE: MAREPAT2100

# Martindale MicroPAT Plus

Dual voltage, downloading PAT tester incorporating a flash test.

Ideal for the hire industry and people working on a budget.

Performs a full range of tests on both 240V & 110V appliances, with a simple push button operation.

- Low cost
- · Digital readout
- Earth bond: 100mA & 25A
- Insulation test
- Load test
- Earth leakage test
- Flash test
- Stores 1000 test results

PRODUCT CODE: MARMPATPLUS



# Martindale MicroPAT PAT 'n' Go

Everything you need to kick start your PAT testing business. This PAT testing kit contains the Martindale MicroPAT Plus downloading PAT tester and a host of accessories and software to get you up and running. The kit contains:

MicroPAT Plus PAT Tester, CCD Barcode Scanner, MPAT Suite PC Software, PC Download Lead Dual Voltage Extension Lead / IEC Lead Tester, 500 Barcoded PASS Labels, 100 FAIL Labels

PRODUCT CODE: MARPATNGO



# Metrel BetaPAT Plus - dual voltage

A dual voltage, comprehensive PAT tester with download & upload capability. This unit follows up from the BetaPAT, adding new features, such as an RCD test, that bring it up-to-date with the latest Code of Practice guidelines.

- 110V & 240V testing
- IT safe earth bond test
- Download & upload of data
- RS232 & USB outputs For download
- FREE download software
- Stores up to 4000 Results
- · RCD test function

PRODUCT CODE: ALPBETAPATPLUS



# Metrel MI3311 Gamma PAT Pro

With a built-in calibration checkbox, this low cost downloading PAT includes free PAT software.

Diagrams on the display indicate the required connections for each test, helping to eliminate some of the common mistakes made when PAT testing.

- Earth bond, insulation & earth leakage tests
- Software included
- Can be connected to a barcode scanner
- Built-in battery charger

PRODUCT CODE: ALPGAMMAPATPRO



# Fluke 6200 Fluke 6500

Ideally suited to small or medium contractors, offices, schools & facilities managers. Using a simple one button, one test operation it's easy for any new user to get to grips with.

- A built-in point to null the resistance of the earth bond lead
- Simple one button operation
- Digital readout
- · Help screens for each test
- Pass or fail indication
- Full range of tests
- IEC lead test

#### Additional features of Fluke 6500

- Full qwerty keyboard
- Graphical LCD
- Flash card memory storage

PRODUCT CODE: FLU6200



# Seaward Supernova Elite

The most advanced and fully specified dual voltage tester available, Seaward's Supernova Elite can fully test any 110V or 240V appliance.

With its step down transformer, the user can test 110V appliances from a 230V mains supply.

- RCD test
- Performs all 240V & 110V tests
- Flash test
- Earth bond @ 100mA, 4A,10A & 25A
- QWERTY Keypad
- Stores up to 6000 results
- Help screens for ease of use
- Built-In lead limit calculator

PRODUCT CODE: SEASUPERNOVAELITE

For more PAT bundles and special offers, visit our website at www.instrotech.com

# **PAT Training**

There is no substitute for hands on experience when it comes to PAT testing. Our PAT training course gives you both the knowledge and practical training required to carry out testing competently and efficiently.

Training courses are carried out in our air conditioned training facility in Watford, just off iunction 5 of the M1.

#### What Qualification Do I Need To PAT Test?

There is no legal requirement for PAT Testers to have a formal qualification.

After the course, you will be issued with a certificate, proving that you have had the required training to carry out PAT testing in accordance with the IEE requirements.

#### What Does The Course Cover?

The morning session of the PAT Training Course covers the following key points:

- · What appliances should be tested
- What tests need to be carried out and how often
- · How to interpret the results from your PAT
- · Maintaining accurate records
- · Real world scenarios

In the afternoon there is a practical session, carried out under supervision of the trainer, where you will PAT test various appliances and use the knowledge from the morning.

We offer a discount for calibrating any electrical test equipment bought along on the day.

Courses start at 9.30am and finish at approx 3.30pm. Lunch and refreshments are provided, and we also have FREE parking on site.

Because only so much can be learnt in one day, we offer all training delegates free technical support after the course is completed. This means that you can contact our technical staff during normal working hours if you have any queries when PAT testing.

#### Let Us Come To You - PAT Training At Your **Premises**

Instrotech also offers PAT training courses at your premises. Our prices are the most competitive available as we train up to 10 delegates for one fixed price of £975 + VAT, plus travel. All course delegates receive a manual and certificates.

#### Why Choose Instrotech?

With over 25 years' experience Instrotech has a well established reputation for the quality of our training courses.

"Throughout the practical session you are not just testing for a pass or fail, but also understanding what the readings mean. Director Peter O'Hara turns in a masterful performance, and is obviously well versed in his subject, the result of many years of experience....

(Boris Sedacca - Electrical Times)

"I think your course was very good. Well done!"

(Michael Alan Snoddy - KLT Construction )

"In my point of view I think it was very good."

(José Moreira - Clean Approach)



#### **PAT Testing Labels & Label Ties** FOR CUSTOMISATION OF LABELS CALL US ON 01923 442244

A full range of PAT testing labels available, and many can be customised with your company name and logo.



Roll of 500 paper PASS labels, designed to be replaced with each inspection. 63 x 38mm.

PRODUCT CODE: SAFLAB



Roll of 500 paper FAIL labels, essential to prevent use of equipment that has failed a PAT test. 63 x 38mm.

PRODUCT CODE: FAILLAB



Roll of 250 high quality PASS labels, made of polyester and designed for harsh environments. 50 x 25mm.

PRODUCT CODE: MEDPASS



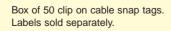
Roll of 500 mini paper PASS labels, designed to be replaced with each inspection. 35 x 18mm.

PRODUCT CODE: MINIPASS



Roll of 250 high quality barcode appliance labels, made of polyester for harsh environments. 50 x 25mm.

PRODUCT CODE: BARLAB



(Colour may vary) PRODUCT CODE: ROBBDST











Roll of 250 PASS labels, designed to wrap around cables or for use on appliances. High quality polyester label for harsh environments. 52 x 52mm.

PRODUCT CODE: CABPASS

Roll of 250 combined barcode & PASS labels. These can be fitted directly to the appliance. On a re-test a new MEDPASS label is applied over the bottom half. High quality polyester. 52 x 52mm.

PRODUCT CODE: BARPASS

Roll of 250 barcoded appliance labels, ideal for labelling IEC leads. High quality polyester label for harsh environments. 52 x 52mm.

PRODUCT CODE: CABLAB

Roll of 500 PASS labels, suited to harsh environments. These labels offer extra protection by sticking down the transparent flap. 30 x 50mm.

PRODUCT CODE: MARKSAF

As well as personalising our standard labels, we can also custom design a label to your own specification. Your design can incorporate your logo, contact details and can be laid out as you require, we will then send proofs for approval.



# Pat Testing Leads & Software

# **Seaward Test & Tag Printer**

The Test & Tag printer can be used with the Primetest 350 (Bluetooth Adaptor Required). Europa Plus and Supernova Plus testers.

Labels are printed on a robust thermal transfer label, ensuring the information cannot be rubbed. washed or scratched off.

PRODUCT CODES: SEATESTTAGPR TEST & TAG

PRINTER **SEATESTTAGCA** 

**BLACK ON YELLOW LABEL** CARTRIDGE

SEATESTTAGCW

BLACK ON WHITE LABEL CARTRIDGE

SEATESTTAGCC PRINTER CARRY CASE

SEABLUEBARADPT BLUETOOTH ADAPTOR FOR CCDBAR TO USE WITH SEAWARD

PRIMETEST 350

# **Barcode Scanners**



Barcode scanners enable quick entry of asset numbers into downloading PATs, eliminating errors when entering data.

Scanners are supplied preconfigured for each manufacturer's PATs.

PRODUCT CODES:

SEAWARD: CCDBAR FLUKE / ROBIN: **CCDBARROB** MEGGER: **CCDBARMEG** MARTINDALE: MARBARCCD BLUETOOTH: **OPLSCANNER** 

## **PAT Adaptors**



Other Adaptors

3 Phase Adaptors

Allows you to carry out basic testing on 3 phase appliances. MARTL151: 16A, 4 Pin MARTL152: 16A, 5 Pin

MARTL153: 32A. 4 Pin MARTL154: 32A, 5 Pin

MARTL157: 110V SOCKET TO 13A PLUG

MARTL155: 16A, 3 PIN BLUE SOCKET TO 13A PLUG MARTL156: 32A, 3 PIN BLUE SOCKET TO 13A PLUG

EXTENSION LEAD ADAPTORS

MAREX332: 240V PLUG TO IEC MAREX331: 110V PLUG TO IEC

# Record Keeping For Manual PATS





For users of manual PAT testers, we offer two ways to maintain your records. Martindale PAT certificates or PAT register books for maintaining records.

PRODUCT CODES:

MARPATREG: PAT REGISTER BOOK MARPATCERTS: 100 PAT CERTIFICATES



# **IEE Code Of Practice (PATs)**

An invaluable source of reference, covering the in-service testing of appliances. We strongly recommend this code of practice to anyone involved in PAT testing.

PRODUCT CODE: IEEPATS3

#### Seaward PatGuard Software





#### PATGuard Workabout - SEAPATGUARDWORK

Designed for use with PDA's, this software allows the user to enter test data as they go along for later download to a PC. This software requires the user to have PATGuard Lite, Pro or Elite installed on their PC.

#### **PATGuard Elements - SEAPATGUARDELEMENTS**

A manual entry software package, enabling users of manual PAT testers to have a software program for managing their work. Ideal for all small contractors as well as being ideal for in house maintenance engineers who have only a small number of appliances being tested.

#### PATGuard Lite - SEAPATGUARDLITE

Ideal for basic in-house systems that do not require full reporting capability or invoicing. PATGuard Lite is an entry level package offering download capability printing one PAT certificate per appliance.

#### PATGuard Pro - SEAPATGUARDPRO

Suitable for small to medium contractors and in-house engineers, this software incorporates the features of PATGuard Lite with the addition of full test history, asset tracking, automatic relocation of assets, better reporting functions including lists of appliances, drag and drop for easy relocation of assets and it's network enabled.

#### PATGuard Elite - SEAPATGUARD ELITE

The software for contractors and large in-house users, full package includes upload capability, PATGuard Viewer generator, auto re-test scheduler, customised email safety alerts and full range of reports & billing.

UPGRADES ARE AVAILABLE AND SO ARE MULTI-USER LICENCES - CALL FOR DETAILS

#### **Martindale PAT Suite**







A comprehensive, easy to use software package for use with the downloading Martindale MPATPLUS and all manual testers, as it accepts manually input results.

Designed with many time saving features, speeding up testing in the field and making you more productive. Has a full range of built in reports but also enables you to export your results into other common packages. PRODUCT CODE: MARMPATSUITE

#### **PC Download Cables**

#### PRODUCT CODES:

TL125: FOR SEAWARD PAT1000 SERIES & PAT2000, MARTINDALE MICROPAT+, ROBIN SMARTPAT 5000 / 5500. FLUKE 6500.

TL145: FOR SEAWARD 2000I, IT1000, EUROPA & SUPERNOVA PLUS. MEG25955-025: FOR MEGGER PAT4DV PAT4DVF CM400 & CM500 MARPATUSBADAPT: USB TO RS232 SERIAL PORT ADAPTOR, COMPATIBLE WITH SEAWARD EUROPA PLUS, SUPERNOVA PLUS AND MARTINDALE MICROPAT+

### **PAT Test Leads**

PRODUCT CODES:

MARTL66: EUROPA, SUPERNOVA, EPAT & MPAT EARTH BOND LEAD

MARTL66/5M: 5 METRE VERSION OF THE ABOVE

MARTL69: SEAWARD PAC1500XI/2000i EARTH BOND LEAD

MARTL693M: 3 METRE VERSION OF ABOVE MARTL160: FLASH PROBE FOR PAT2000 MARTL163: FLASH PROBE FOR SUPERNOVA

MARTL166: FLASH GUN FOR MARTINDALE EPAT2100 & MICROPAT+ MARTL67: EARTH BOND PROBE FOR PRIMETEST, HPAT, GAMMAPAT

#### **Metrel Testers**



#### MI3002

Full featured downloading tester, supplied with hard carry case & PC software.

This tester features user help screens, rechargeable batteries and is backed with a 3 year manufacturers warranty.

The standard unit is supplied with remote test probe (3 wire tip commander), mains plug, 3 way test lead set with probes & croc clips, rechargeable batteries with plug in charger, heavy duty carry case & manual on CD ROM.

Tests insulation at 100, 250, 500, 1000V. Non trip and high current loop test with PFC RCD auto, manual and ramp tests, phase rotation.

Software included.

#### PRODUCT CODES:

METREL MI3002DL BASIC KIT:

#### ALPMI3002

METREL MI3002DL PRO KIT: AL PMI3002DI PROKIT

METREL MI3002DL PRO PLUS KIT WITH NIC EIC SOFTWARE:

ALPMI3002DLPROPLUS



#### MI3125B

A downloading 17th Edition tester, feature packed to give you the most value for money.

Help screens are provided with each test. Test results can be stored in the memory and downloaded to the PC software (included). Reports and standard test certificates can then be printed off.

Patented solution for testing of R1 + R2.

#### MI3125BPRO

Supplied with this kit is the patented Metrel EASI Switch adaptor. Using this accessory enables you to carry out R1 + R2 measurements automatically, without the need for changing leads or connectors. A simple connection is made at the distribution board and the test is remotely controlled by the tester.

PRODUCT CODES: ALPMI3125BPRO METREL MI3125B FUROTEST COMBO PRO KIT

#### ALPMI3125BPROPLUS

METREL MI3125B EUROTEST COMBO PRO PLUS KIT WITH NIC SOFTWARE

#### **Martindale Multifunction Tester**



PRODUCT CODES:

MARVRSOFT1: 17TH EDITION SOFTWARE MARVRSOFT2: POWER ANALYSIS SOFTWARE MARVRTL1: INFRARED DATA LEAD MARTCES HARD CARRY CASE OPTIONAL REPLACEMENT MARTL54:

FUSED LEAD SET

MARFLEX2250: 2000A FLEXI CLAMP FOR VR2250

VERITEST 2250 - Suitable for commercial and industrial installers, supplied with certificate of calibration

This is a multi-tasking all-in-one 17th edition tester, with the added functionality of a power analyser and earth resistivity.

This is a fully specified instrument that not only offers powerful testing capabilities to the electrician, but also is an invaluable tool for power, distribution and cabling organisations alike.

See page 8 for software.

#### Megger Testers



The MFT1500 series offers a great solution for domestic and commercial engineers.

• PFC measurement on both loop test ranges

AS ABOVE

ADDS SWITCHED PROBE

ADDS BLUETOOTH TRANSFER

ON SITE ADDS SOFTWARE

**AUTO RCD & DC RCDS** 

• Fault (Touch) voltage 25V or 50V Fault (Touch) voltage display

Insulation test ranges 250 V 0.01 MΩ - 99.9 MΩ  $500 \text{ V } 0.01 \text{ M}\Omega$  - 299 MΩ 1000 V 0.01 M $\Omega$  - 499 M $\Omega$  $\pm 2\% \pm 2$  digits up to 99 M $\Omega$ 

PRODUCT CODES:

MFT1501/2

MFT1502/2

MFT1552

MFT1553

Loop test ranges: Line/Earth 25 A  $0.01\Omega - 9.99\Omega(\pm 5\% \pm 0.03\Omega)$  $10.0\Omega - 89.9\Omega(\pm 5\% \pm 0.5\Omega)$ 90Ω - 899Ω(±5% ±5Ω)

900Ω - 3.00kΩ(±5% ±20Ω)

Phase to phase: 25 A:  $0.01\Omega$ -19.99 $\Omega$ 

Low current Loop (NO TRIP) 15 mA  $0.01\Omega$  2.00k $\Omega$  Prospective Shortcircuit Current PSC

RCD ranges

Ranges: 1000 mA, 500 mA, 300 mA, 100 mA, 30 mA, 10 mA

Type: 1/2 I - 1/2 times the selected RCD rated current

I - One times selected RCD rated current.

5I - Five times I RCD rated current. RAMP - A ramp test that displays actual trip current.

# MFT1553

Fluke 1652C: The Fluke 1650 series installation Includes a high current loop test testers are feature-packed to cater for the requirements of both and other features. domestic and commercial • Performs insulation test at 250, engineers. The large backlit 500 or 1000V. display makes it easy to read the • Non-trip loop test won't trip out test results and all testers are

supplied with fused test leads, current loop test. certificate of calibration, carry • Auto RCD test, ramp test & strap, quick start guide with full RCD trip time test with variable instruction manual on CD and a current mode for customised hard carry case. settings & pass / fail indication.

• PEFC / PSC (PFC / PSCC) & loop measurements are displayed at the same time

RCDs, but also includes a high

· Live voltage indicator and wiring polarity checker. • Free manufacturers calibration

certificate included. Phase rotation.

**PRODUCT CODE: FLU1652** 

Fluke 1650B Series Multifunction Testers Fluke 1653B: Has the same features as

> described in the 1653B but with the following extras

• Performs insulation test at 50, 100, 250, 500 or 1000V.

• Has memory storage & download facility.

• Earth resistance test (optional spike kit required).

PRODUCT CODE: FLU1653B

SEE PAGE 8 FOR DOWNLOADING SOFTWARE



#### **FLUKE 1654**

Has the same features as described in the 1653B but with the following extras

- RCD type B test (smooth current)
- $m\Omega$  resolution for Loop test
- Memory (up to 1500 test results)
- Extended data management
- Extended documentation mode fills in certificates when downloaded to DMS software (only UK).
- 0.001 resolution on high current

PRODUCT CODE: FLU1654



# Insulation & Loop Testers



# **Megger MIT300 Insulation Testers**

The MIT300 series testers are surrounded by a thick rubber casing, with a large easy to read display and colour coded selectors. The safety interlock system prevents unsafe connection of test leads.

Basic insulation and continuity tester with 250, 500 & 1000V ranges.

#### MIT310A

Analogue version of the MIT310.

As the MIT310, but also includes adjustable buzzer and switched probe.

#### MIT330

As the MIT320, with download facility

#### PRODUCT CODES:

MEGMIT310

MEGMIT310A

MEGMIT320

MEGMIT330

# **Fluke 1500 Insulation Testers**





A low cost yet high quality insulation and continuity tester. Tests at 500 & 1000V. includes test leads and a remote switch probe.

#### 1507

As the 1503 but with 50, 100, 250, 500 & 1000V ranges.

Saves time with auto calculation of polarisation index and dielectric absorption ratio.

Also includes a compare function (pass/fail) for fast repetitive tests.

PRODUCT CODES: FLU1503, FLU1507



Bluetooth

# **Megger MIT400 Insulation Testers**

#### MIT400

Handheld 250, 500 & 1000V insulation tester with digital display and analogue arc.

#### MIT410

Adds 50 & 100V, polarisation index and dielectric absorption ratio.

#### Insulation Nominal test voltages

MIT400: 250V, 500V, 1000V MIT410, 420, 430: 50V, 100V, 250V, 500V, 1000V MIT40X: 10V to 100V variable (1V increments)

Insulation resistance range (at maximum test voltage)

MIT400 20GO MIT410 100GΩ

Range Full Scale Accuracy All ranges ±2% ±2 digits up to 100

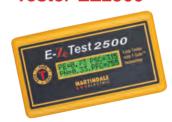
Adds results storage and PC download.

#### MIT430

Adds Bluetooth download.

PRODUCT CODES: MEGMIT400. MEGMIT410. MEGMIT420 MEGMIT430

# **Martindale Loop** Tester EZ2500





P-E, P-N tests with PFC & PSC indication, all automatically displayed on one screen.

A simple non trip loop tester to use which gives all four headings on one display.

#### No batteries, No buttons!

PRODUCT CODE: MAREZ2500





Handheld unit with digital display and bargraph, suitable for domestic and commercial engineers as well as the repair industry. All models display the actual test voltage and are supplied with test leads, carry case, batteries and manual.

#### **Martindale 2100 Insulation Testers**

500V test with continuity at 200mA, auto zeroing of test leads.

As the IN2101, but adds 250 & 1000V to the insulation test.

As the IN2102, but this tester also calculates polarisation index and dielectric absorption ratio, has Pass & Fail indicators and user settable limits. It can also store 100 results.

PRODUCT CODES: MARIN2101, MARIN2102, MARIN2103

## Megger MIT200 Insulation Testers



PRODUCT CODES: MEGMIT220, MEGMIT230 Compact insulation and continuity testers with a combined digital readout and analogue display.

#### **MIT220**

250 & 500V insulation ranges, lead null, continuity buzzer and voltage detection.

Built in intelligent safety system with live circuit warning and backlit display.

#### MIT230

As the MIT220 with the addition of 1000V on the insulation test range.

# **Megger LTW Series Loop Testers**

Featuring an auto start operation, auto noise detection and capable of 110V centre tapped loop testing, these are great value for money.

The thick rubber casing protects from damage and the clear LCD display makes it easy to read.

Each tester is supplied with test leads, mains lead, hard carry case and calibration certificate.



#### LTW315

Non trip or high current loop test option for 110V to 280V applications, 20kA PFC range &  $0.01\Omega$  resolution,

Adds 50V - 440V operation range, Phase to Phase testing, Max Zs display & R1 + R2 display.

#### ITW335

Adds download capability.

#### LTW425 - 0.001 $\Omega$ Resolution

With all the features of the LTW325, this unique tester features a resolution of  $0.001\Omega$  & a 40 kA PFC range.

PRODUCT CODES: MEGLTW315, MEGLTW325, MEGLTW335, MEGLTW425

# **Megger RCDT Series RCD Testers**



PRODUCT CODES: MEGRCDT310 MEGRCDT320 MEGRCDT330

A complete solution to testing RCD's. Surrounded with a protective rubber case, these robust testers are durable and easy to use. All testers are supplied with test leads, calibration certificate and hard carry case.

#### RCDT310

Tests all types of RCD's, standard, DC and selective at 30,

100, 300 & 500mA. Performs trip time test at 0° or 180°.

#### RCDT320

As with the 310, this unit also allows testing of 10 & 1000mA RCD's, with the addition of a ramp test and auto test sequence.

#### RCDT330

As the 320, this tester also adds a download feature and programmable RCD function.

#### **Martindale RCD Tester**



The Martindale RC2000 is suitable for testing all common RCD's up to 500mA and as low as 6mA. The RCD rating is set using the convenient rotary dial.

Three different test currents are available, full, half and fast, on one selector switch, whilst the other can be used to select either 0° or 180° (positive / negative half cycle).

The tester comes supplied in a carry case with mains test lead and manual.

PRODUCT CODE: MARRC2000

#### Kaise Insulation Tester SK3502



PRODUCT CODE:

This insulation tester is feature packed at a great price. Supplied in a carry case with test leads and crocodile clips, Features include:

- Tests at 125V, 250V, 500V & 1000V
- · Continuity test
- Data memory
- Timer
- · Live wire warning
- · Safety lock
- · High voltage warning
- Automatic discharge
- · Zero-ohm adjustment
- Backlight, display hold & auto & power save

#### **Robin 17th Edition Test Kit**



Robin 17th edition test kits are supplied with all test leads and a soft carry case as standard.

#### ROBR16ADL

Contains the K3131DL 250, 500 & 1000V analogue insulation & continuity tester, KMP4120DL non-trip loop tester and KMP5404DL RCD tester.

#### ROBR16DDL

Contains the KMP3075DL digital insulation tester, KMP4120DL Non trip loop tester and KMP5404DL RCD tester.

#### ROBR16FDL

Contains the KMP3050DL digital insulation tester, KMP4120DL Non trip loop tester and KMP5404DL RCD tester.

CALL 01923 442244 FOR DETAILS OF ALL TEST KITS

PRODUCT CODES: ROBR16ADL, ROBR16DDL, ROBR16FDL

#### **Seaward Check Box**

The only comprehensive PAT and Installation instrument verification system in one rugged, drop-proof enclosure. Seaward's Checkbox offers more features than its competitors at a very competitive price.

Where some calibration checkboxes will trip an RCD on a circuit, the Seaward Power Check 1557 is protected from this happening.



- · Earth continuity check
- Insulation check (3 points)
- Earth loop check (3 points)
- · RCD check
- Voltage check
- Earth bond check (PATs)
- Insulation check (PATs)
- PE conductor current check (PATs)
- Flash test current (PATs)
- Built into a rugged carry case

PRODUCT CODE: SEAPOWERCHECK

#### **Transmille Calibration Checkbox**



Verify the calibration of your test instruments with the Transmille Checkbox. This unit acts as a known source for checking insulation testers, earth loop testers, RCD testers, multifunction installation testers and PATs. Supplied with an A4 spreadsheet for maintaining records of checks.

# **Robin Loop Testers**

Suitable for accurate measurement of earth loop impedance at various points throughout an electrical installation. External earth probe allows measurement of exposed metalwork. The KMP4120DL will not trip conventional RCD's and can also test DC sensitive RCD's.



PRODUCT CODES: ROBKMP4116DL ROBKMP4118DL ROBKMP4120DL

#### KMP4116DL

Basic loop tester with visual indication of correct wiring status, lock down test button and earth probe for bonded metalwork.

#### KMP4118DL

As the 4116, with the addition of a direct readout for prospective short circuit current. Adds direct readouts for PSC.

#### KMP4120DL

As the 4118, however this unit will not trip passive RCD's.

# **Robin Insulation & Continuity Testers**

These units feature a lockdown test button, live circuit warning and automatic capacitive circuit discharge facility. Supplied with all relevant test leads.

#### KMP3050DL

250, 500 or 1000V tests, test lead resistance zeroing and a bar graph.



PRODUCT CODES: ROBKMP3050DL, ROBKMP3075DL

#### KMP3075DL

Adds backlight and Trac-Lok for extended battery life.

# **Robin RCD Testers**

The 5406DL has a tripping time resolution of 1ms, phase angle switch for optimum testing and LED indication of correct wiring status.

This unit can also test DC sensitive breakers and is unaffected by fluctuations of mains voltage.



PRODUCT CODE: ROBKMP5406DL

#### Electrical Test Certificates & IEE Books Fluke DMS 0100 Installer software



#### **IEEBS7671**

17th Edition Regulations.

#### **IEEBUILDREG**

Guide To Building Regulations

#### IEEEMCODE

Maintenance Code Of Practice

#### IEEGUID1 - Guidance Note 1 Selection & Erection Of Equipment

IEEGUID2 - Guidance Note 2 Isolation & Switching

IEEGUID3 - Guidance Note 3 Inspection & Testing

**IEEGUID4 - Guidance Note 4** Protection Against Fire

IEEGUID5 - Guidance Note 5 Protection Against Electric Shock

IEEGUID6 - Guidance Note 6

Protection Against Over Current

IEEGUID7 - Guidance Note 7

Special Locations

#### **IEEONSITE**

16th Edition Regulations, On Site

Guide



FLUTD01: 17th Edition electrical

installation certificates

FLUTD02: 17th Edition Minor

Works certificate for electrical installations

FLUTD03: 17th Edition Periodic

Inspection Report

FLUTD04: 17th Edition Survey

Schedule & Test

Report

FLUTD05: 17th Edition Inspection

& Test Schedule for distribution boards up to 1 x 12 ways

(Single Phase)

FLUTD06: 17th Edition Inspection

& Test Schedule For distribution boards up to 3 x 12 ways

FLUTD07: 17th Edition Part P

Certificates,

FLUTD16: 17th Edition

observation and recommendation form

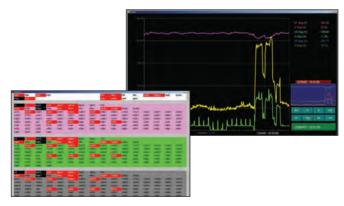
PRODUCT CODE: FLU1653\_0100INST



The Fluke DMS 0100 Installer software is capable of printing to NIC EIC certificates, as well as standard BS EN7671 and IET certificates, the Fluke DMS0100/INST also has a feature that allows export to Excel format.

- · Clear & Logical Hierarchy
- Simple Directory Structure (customer, installation & circuit always visible)
- Measurement Data Download From Fluke 1653 & 1653B to PC
- New Data Records For Test Automatically Created
- Test Results Printed Out Quickly & Easily
- Prints Certificates & Reports onto IET or NIC EIC Certificates & Plain Paper

# Martindale VRSOFT2 Power Analysis Software



With this software you can turn the VR2250 combined 17th Edition and power analyser into a powerful tool to provide power analysis reports to your clients.

You can provide information in a spreadsheet style or more impressively in graphical formats. Record and monitor single phase voltage and current, frequency, harmonics, total harmonic distortion and power factor.

RODUCT CODE: MARVRSOFT2

# Megger PowerSuite 17th Edition Software



#### PowerSuite Pro Lite

Downloading software for 17th edition Megger testers and PATs, includes client manager, download manager, certificate manager for printing ECA, IEE NICEIC & BS electrical test certificates and company logo import.

PowerSuite Contractor Full
In addition to the features of ProLite 17th, this package also
includes database manager, a
tool that links all your customers
with their test results via simple
drag and drop editing. Along with
this you also get the organiser
and standard report modules.



PowerSuite Contractor Power In addition to the features of the Powersuite Contractor Full it also has extended certificates, extended reports, digital image input, viewer CD, document design modules, maintenance modules.

PRODUCT CODES: MEG6111-695, MEG6111-698 MEG6111-700





#### Why Hire?

Hiring test equipment means you get the right tool for the job, without having to worry about high purchase prices, maintenance costs, support or cash flow.

Through hire you can expand the range of services you can offer your customers, without a large outlay in costs, maximising your profits and maintaining good customer relations.

When you need equipment for that one-off job, or if you are thinking of purchasing a particular product and wish to "try before you buy", hire is the answer. You can rely on Instrotech to get you the right product at the right price.





#### What equipment is available?

Our hire fleet consists of a wide range of test equipment. We are always adding more equipment, so if you can't find the item you require please contact our sales team on 01923 442244, or email us, sales@instrotech.com.

Lowering carbon emissions and monitoring power consumption is fast becoming a necessity for many companies. As a result we have one of the largest fleets of power monitoring equipment of any hire company in the UK.

#### Have the equipment you need, when you need it!

Our technical sales staff are on hand to assist and advise you on the best piece of equipment for the job, and help out should you experience any problems during use.

Hire equipment is sent out on a pre 10.30am delivery by UPS, guaranteeing you have the equipment ready to go on the first day of the hire. We can deliver to your business address, or if required direct to site.

Long term hire discounts on the standard weekly rate are available for customers who require hire equipment for 4 weeks or more. Please contact our sales team on 01923 442244 to discuss your requirements.

All hire items are supplied with current calibration certificates.

Have the equipment you need, when you need it!

· · · · · · · · · · · · · · · · · · ·	er week
Elcomponent SPCMINI - Datalogging clamp meter	49.00
Elcomponent SPCPRO - Basic 3 phase, 3 wire datalogger	100.00
Elcomponent Microvip - 3 phase, 3 wire analyser  Sontay LM21 - Single or 3 phase voltage disturbance recorder	147.00 157.00
Elcomponent Interlogger - 3 phase, 4 wire analyser, with harmonics	236.00
Fluke 435 - 3 phase, 4 wire analyser, with harmonics, voltage disturbance	285.00
Elcomponent Power Pro - 3 phase, 4 wire analyser, with harmonics	300.00
DC Clamp - For monitoring of DC current with the Power Pro	17.00
200A CT Kit - 4 x 200A CTs for the Interlogger or Power Pro	70.00
DAT Tootoro	
PAT Testers  Martindale HPAT500- Simple PAT tester, carries out legal minimum tests,	35.00
Martindale HPAT600 - As the HPAT500, with user adjustable pass limits	45.00
Martindale EPAT2100 - Full spec, dual voltage manual tester	65.00
Martindale Micropat Plus - Downloading dual voltage PAT tester	55.00
Seaward Europa Plus - Full spec 240V downloading PAT tester	55.00
Seaward Primetest 350 - Full spec 240V downloading PAT, battery powered	80.00
Seaward Primetest 350 Kit - Primetest 350 with Bluetooth printer & scanner	120.00
Seaward Supernova Plus - Full spec dual voltage downloading PAT tester	70.00
Barcode Scanner - for use with Martindale & Supernova / Europa PATs	24.00
17th Edition Testers	
Fluke 1652B - Full spec multifunction tester, non-trip & high current loop tests	72.00
Fluke 1653B - As 1652B, with memory, phase rotation & earth resistivity tests	72.00
Megger MFT1552 - Full spec multifunction tester	72.00
Martindale VR2240 - Full spec multifunction tester	72.00
Martindale IN2103 - Insulation / continuity tester, with PI & DAR	35.00
Martindale EZ2500 - Non-trip earth loop tester with PSC readings	35.00
Robin KMP4120DL - Non-trip earth loop tester, with PSC readings	44.00
Megger LT320 - Non-trip/high current loop tester, auto R1 + R2 calculation	48.00
Megger LTW425 - Non-trip/high current loop tester, 2 wire, R1 + R2 calculation	55.00
& 0.001Ω res  Martindale CM67 - Earth leakage clamp, 0.01A resolution	60.00
Wartindale ONO? Earth leakage damp, 0.01% resolution	00.00
Cable Detection & Fault Location	
Fluke 2042 - Professional cable detector, for live and dead circuits	65.00
C-Scope R33 - Underground cable detector	65.00
C-Scope T33 - Signal generator for use with the R33  Megger TDR900 - Basic cable fault locator & cable length meter	55.00 75.00
wegger 10 N300 - basic cable laur locator & cable length meter	75.00
Earth Resistance Testers	
Megger DET10C Earth Clamp - Earth Resistance clamp	70.00
Megger DET5/4R - 4 pole earth resistance tester	65.00
Earth Spike Kit	
4 spikes, 2 x 3m cable, 1 x 30m cable, 1 x 50m cable & hammer	28.00
One Arrahaman	
Gas Analysers  Kane KM250 - Boiler combustion analyser, measures O2, CO & temperature	75.00
Table Kivi250 - Boiler combustion analyser, measures 02, 00 & temperature	75.00
High Voltage Testers	
Megger BM21 - 5kV Insulation tester	100.00
Metrohm E3640 - 4kV Flash tester	150.00
Milliohmmeter / Ductor Testers	
Chauvin Arnoux CA6240 - 4 wire milliohmmeter, 10A max current	95.00
Cropico DO7 - 4 wire milliohmmeter, 10A max current	95.00
Megger BT51 - 4 wire millohmmeter, 2A max current	125.00
Sound & Light	
Casella Sound Meter - For basic sound level monitoring, A & C weighting	75.00
Minolta T10 - Professional light meter, 0.1 resolution	76.00
·	
Thermal Imaging Cameras	
Flir i7 - As the i5 with 120 x 120 pixel resolution	
Flir i60 - Visual camera, analyzing functions and scalable picture-in-picture	
Flir T335 - 320 x 240 pixel resolution, picture in picture, auto/manual focus	

Flir B365 - As T335, with thermal fusion, reference temperature

Call for camera prices or check online at www.instrotech.com/hire.php

Flir P660 - 640x480 resolution, radiometric video

#### Fluke 100 Series Multimeters



FLU114 Electrical Multimeter Ideal for electrical troubleshooting, this meter includes a special feature to eliminate false readings

PRODUCT CODES: FLU114. FLU115. FLU116. FLU117

through "ghost" voltages.

#### Fluke 1577 / 1587



**FLU115 Field Service Multime** Optimised for electronic testing in the field and industrial application

FLU116 HVAC Multimeter With all the features of the 114 plus a built in thermometer & microamps function for testing

flame sensors.

FLU117 Electricians Multimeter Features a non contact voltage detector, low impedance input to prevent ghost voltage, frequency, capacitance & diode testing.

Two tools in one, combining a multimeter with an insulation tester. Designed for industrial applications such as motors, generators & switchgear, these true RMS multimeters offer outstanding value for money.

Supplied with test leads, hard carry case, switch probe (80BK temperature probe - 1587 only).

PRODUCT CODES: FLU1577, FLU1587

#### Fluke 70 Series Multimeters





Basic all round multimeters, suitable for many electronic applications.

Suitable for general purpose applications.

Supplied with standard test leads.

PRODUCT CODES: FLU73, FLU77

Full spec sheets for all Fluke products are available www.instrotech.com

#### Fluke 88V/A



Fluke 88V/A Automotive Meter Combo Kit. A complete automotive diagnostic package with virtually everything you need in an automotive multimeter.

Contains: H80M Holster with TPAK Meter Hanging Solution, TL224 SureGrip™ Silicone Test Lead Set, TP220 SureGrip™ Test Probe Set, AC285 SureGrip™ Large Jaw Alligator Clip Set, 80BK Integrated Temperature Probe, RPM80 Inductive Pickup Probe, Two Automotive Back Probe Pins, Insulation Piercing Clip, C800 Hard Case.

PRODUCT CODE: FLU88

# Fluke 233 True-RMS Remote Display Digital Multimeter The ultimate flevibility in unusual



The ultimate flexibility in unusual measurement scenarios. Place the removable display where you can see it and then put the meter where it is convenient for you — no more juggling of leads and the meter while stretching into a tight spot. You can now take measurements in hard-to-reach places, where machines or panels are physically separated from a limit or isolator switch, or in user prohibited areas.

Supplied with printed manual, batteries, standard test leads, alligator clips, 80BK-A temperature probe and CD ROM containing user manual, technical notes and images.

# Fluke 80 Series Multimeters







PRODUCT CODES: FLU83, FLU87, FLU87VEX Improved troubleshooting functions and accuracy. Suitable for solving problems on motor drives, in plant automation, power distribution and electro-mechanical equipment.

The 87VEx is ATEX approved for use in hazardous environments.

Supplied with test leads & crocodile clips. The 87V & VEx also include the 80BK temperature probe.

These multimeters are ideal for troubleshooting variable speed drives & electrically noisy equipment.

#### Fluke 170 Series



General purpose multimeters, suitable for electrical, HVAC and electro-mechanical troubleshooting.

Supplied with test leads, the 179 also includes the 80BK temperature probe.

PRODUCT CODES: FLU175 FLU177 FLU179

#### Fluke 280 Series



The Fluke 287/289 true-RMS digital multimeters are two of the most advanced multimeters.

Both meters can log multiple sessions unattended in the field, with logged readings being reviewed without a PC.

PRODUCT CODES: FLU287, FLU289

Multimeter Test Leads



A range of test leads is available for multimeters. In order to give additional protection to your multimeter we recommend using fused test leads. The TL5X series is made with double insulated silicone cable, complies with GS38 & BS EN61010 and includes 500mA, 600V 50kA rupture rating ceramic fuses. All test leads have a 4mm shroud.

#### PRODUCT CODES:

MARTL16: Low cost, unfused test leads, right angled shroud

MARTL45: Unfused test leads with croc clips & right angled shroud

MARTL47: As the TL45 with a straight shroud

 $\textbf{MARTL55:} \ \mathsf{GS38.} \ \mathsf{Fused} \ \mathsf{test} \ \mathsf{leads} \ \mathsf{with} \ \mathsf{croc} \ \mathsf{clips} \ \& \ \mathsf{right} \ \mathsf{angled} \ \mathsf{shroud}$ 

MARTL57: GS38. As the TL55 with a straight shroud

# Martindale MM37 - non contact voltage detection



PRODUCT CODE: MARMM37

Full function multimeter which constantly updates the max value memory and has a hold button. Automatically senses mains voltages.

Each unit is supplied with standard test leads and manual.

# Martindale MM44 - manual ranging



PRODUCT CODE: MARMM44

The MM44 has 11 functions, is suitable for most applications, with a basic accuracy of 0.8%.

Each unit comes supplied with standard test leads, spare fuse and manual.

Ideal general purpose multimeter

AC/DCV: 0-200m-2-20-200-600V. AC/DCA: 0-20m-200m-10A.

Resistance: 0-200-2k-20k-20k-2M-20M-2000M. Frequency: 0-2kHz-20kHz-200kHz-2MHz-15MHz.

Capacitance: 0-2n-20n-200n-2µ-20µF.

#### Martindale MM34



PRODUCT CODE: MARMM34

The MM34, low cost multimeter, has 4 main functions together with diode and battery test and a large clear display.

The sculpted shape makes it comfortable to hold and easy to position the central rotary

#### **Martindale MM45**



PRODUCT CODE: MARMM45

This high specification autoranging multimeter is fast, safe and simple to use. The range hold and change buttons give the option of full measurement control.

The addition of a bargraph assists with varying signals. A clear digital display gives sharp accurate results.

ACV: 0-3.2-32-320-600V

ACA: 0-320µ-3200µ-32m-320m-10A. DCV: 0-320m-3.2-32-320-600V.

DCA: 0-320µ-3200µ-32m-320m-10A.

Resistance: 0-320-3.2k-32k-320k-3.2M-30M. Continuity buzz at <20

#### Martindale MM84



PRODUCT CODE: MARMM84

It combines a basic accuracy of 0.05% and true RMS capability.

It accurately measures the frequency of mains supplies and up to 20A AC or DC. It also has a continuity buzzer, an audible wrong range warning and data hold to freeze the current reading.

This combination of high specification and broad capabilities make it outstanding value.

200mV - 2 - 20 - 200 - 1000VDC 200mV - 2 - 20 - 200 - 750VAC True RMS 200µA - 2mA - 20m - 200m - 20A AC/DC 0 - 200 - 2k - 20k - 200k - 2M - 20M 2k - 20k - 200kHz (Can read 50.0Hz)

# Martindale MM39 - auto ranging



PRODUCT CODE: MARMM39

The MM39 has a positive action range selection designed for comfort and ease of use. The large rotary range selector and two single buttons for range lock and to hold a result, make one handed operation (right or left) very comfortable. With fused protection and CAT III 600V overvoltage protection, your safety as well as your comfort is guaranteed.

# **Martindale Proving Unit**



This is a battery powered proving unit that produces a 240VDC output. Any device used for voltage detection and for proving dead should be tested before and after use to ensure the safety of the operative.

It is current limited to 2mA & is suitable for use with multimeters & other voltage detectors that have an input impedance greater than 120K.

PRODUCT CODE: MARPD240

# Martindale MM47 - electricians DMM with phase rotation and temp



PRODUCT CODES: MARMM47 MARTL58 (3 PHASE LEADS)

A good all round electricians multimeter, designed to satisfy the needs of working electricians.

Supplied with standard test leads, manual & K Type thermocouple. Optional 3 phase leads available (TL58).

ACV: 0-200m-2-600V. DCV: 0-200m-2-20-600V.

Resistance: 0-200-2k-20k-200k-2000k-20M-2000M . Frequency: 10Hz-40kHz autoranging resolves to 1Hz. Phase Rotation Indicator: frequency range: 45-450Hz, 80-480V.

Temperature: -20 to 750°C, -4 to 1400°F, accepts K-Type probes



# Fluke 27-II & Fluke 28-II Multimeter - with true RMS for harsh environments

With its IP67 rating, MSHA approvals (pending),

extended operating temperature range the Fluke 27-II is the ideal choice for users who need a robust and long lasting meter.

- IP67 Dustproof and waterproof
- 6000 Count digital display
- · Dual Level Backlight
- Reversible rubber holster
- · Resistance, Continuity & **Diode Test**
- Min / Max / Average Recording
- Relative mode test lead

resistance

- · Auto and manual ranging
- CATIII 1000V/CAT IV 600V

Fluke 28-II multimeter Adds:

- True RMS on AC current
- Temperature
- Motor drive measurements
- · Built in thermometer
- 20 000 count digital display

Both supplied with: TL75 Test Leads, AC72 Alligator Clips, 80BK-A Temperature Probe, Yellow Rubber Holster, Manual & Batteries. Information on CD ROM.

PRODUCT CODE: FLU27-II PRODUCT CODE: FLU28-II

# Fluke 320 Series - general purpose



General purpose 400A clamp meters, ideal for measuring current in tight cable compartments.

Each clamp is supplied with a soft carry case, standard test leads, batteries, instruction card and safety information sheet.

PRODUCT CODES: FLU321, FLU322

This range is due to be discontinued from mid 2011

# Fluke 330 Series - 600-999A



These clamp meters are simple to use and designed to fit comfortably in your hand. Each clamp is supplied with a soft carry case, standard test leads, batteries, instruction card and safety information sheet.

PRODUCT CODES:

FLU333, FLU334, FLU335, FLU336, FLU337

This range is due to be discontinued from mid 2011

# Fluke CAT IV rated clamp meters



Fluke have introduced a brand new range of advanced clamp meters. With state-of-the-art capabilities, the clamps are able to meet the most demanding requirements for flexibility, performance and safety.

With the introduction of the new iFlex 2500, the new range of clamp meters can read up to 2500A. The Fluke 381 also has a unique removable display, allowing the clamp to be attached to a cable, and the readings to be taken from a distance - increasing the useability and safety of the clamp. PRODUCT CODES: FLU373, FLU374, FLU375, FLU376, FLU381

# Fluke 902 HVAC clamp meter



CODE: FLU902



HVAC clamp meter, incorporating temperature measurement, capacitance and true RMS readings on AC current & voltage.

Each clamp is supplied with standard test leads, 80PK temperature probe, batteries, instruction manual and safety information sheet.

# Kaise SK7830 Low Current DC Clamp



PRODUCT CODE: SK7830

A low current, DC clamp meter suitable for troubleshooting automotive applications, ideal for measuring dark current which is the low level current that is used after turning off the engine, by such extras as car security systems. Too much dark current causes excess battery drain.

# Kaise SK7706 2000A True RMS Clamp



PRODUCT CODE: SK7706 Large jaw 2000A AC / DC clamp meter with True RMS readings, dual display readings and output connection for oscilloscopes.

- 55mm diameter jaw
- AC / DC volts to 600V
- AC / DC current to 2000A
- Temperature, continuity & diode test
- MAX/MIN, average, peak hold & difference
- Output terminal
- Display hold & auto power save

# Fluke 353 & 355 True RMS 2000A

**Clamp Meters** 



True-RMS, extra-wide jaw, 2000A clamp meters, ensure you can take reliable readings.

The extra rugged design and CAT IV 600 V, CAT III 1000 V ratings add an extra element of user protection.

Accurate peak measurements can be taken using the in-rush current mode, ideal for motors and inductive loads. The 355 also measures voltage and resistance, making this an ideal clamp meter for utilities, electrical contractors and industrial service technicians.

PRODUCT CODE: FLU355, FLU353

# Chauvin Arnoux F05 & F07 HVAC



F05

Multipurpose RMS clamp meter with small diameter clamp and inrush current measurement and phase rotation using 2 wire method.

Each clamp is supplied with a soft carry case, standard test leads, batteries and instruction manual.

#### F07

Same as the F05 but adds thermocouple socket for temperature measurement.

# Martindale CM51A - mini clamp



PRODUCT CODE: MARCM51A

A low cost 300A mini clamp meter with autoranging, display hold and auto power down. This small meter will fit into your shirt pocket for maximum convenience.

The small jaws make it easy to use and the autoranging 300A AC capability accurately covers the majority of applications.

# Chauvin Arnoux F11N & F15N True RMS



F11N

A robust, general purpose clamp meter, suitable for electricians and general maintenance use.

#### F15N

True RMS version of the F11N, adding DC measurement.

Each clamp is supplied with a soft carry case, standard test leads, batteries and instruction manual.

PRODUCT CODES: CAF11, CAF15

# Martindale CM54 / 56 / 58 Clamp Meters



PRODUCT CODES: MARCM54, MARCM56, MARCM58

With outstanding specifications & measuring capability, the CM50 range is ideal for electricians and maintenance engineers. Supplied with a soft carry case, test leads, batteries and manual.

#### CM54

- Low cost
- 1000A AC
- Multimeter functions
- Hold button

#### CM56 Adds:

- Frequency
- Bargraph
- AC peak

#### CM58 Adds:

- True RMS
- 1000A AC / DC
- · Min/max readings

# Megger MMC850 -multi-core clamp



Measures current up to 100A through multi-core cable, without breaking the circuit. Ideal for general maintenance work.

3½ digit display,

backlight and

data hold. Max conductor size 13mm.

Accuracy varies dependent on type of cable & core numbers.

PRODUCT CODE: MEGMMC850

# **Earth Leakage Clamp Meters**



#### Kaise SK7825

A 40mm jaw size and measuring ranges from 40mA to 100A, with an accuracy of 0.10mA. Ideal for identifying appliances that are causing RCD's to trip.

PRODUCT CODE: SK7825



#### Kaise SK7815

High quality earth leakage clamp meter with a resolution of 0.01mA and accuracy of up to 0.05mA. Ideal for identifying appliances that are causing RCD's to trip. Measures up to 60A.

PRODUCT CODE: SK7815

0 - 30 - 300mA.

0 - 30 - 60A.

Basic accuracy: ±1% ±5 digits. 0 - 300 - 600V AC ±2% ±5 digits. Max conductor diameter 30mmØ. Data hold

Max and Min.



#### Fluke 360

Measuring leakage current with a 3mA range and  $1\mu$ A resolution. Measures up to 60A with a wide jaw size of 40mm, enabling it to be used in many applications.

PRODUCT CODE: FLU360

# Clamp comparison chart

	Volts AC	Volts DC	Current AC	Current DC	True RMS	Resistance Ω	Audible Continuity	Frequency	Capcit- ance	Diode Test	Temp.	Min / Max	Analogue Bargraph	Backlit Display	Data Hold	Jaw Size	Safety Rating
Fluke 321	600		400A			400Ω									Υ	25mm	CAT III 600V
Fluke 322	600	600	400A			400Ω									Υ	25mm	CAT III 600V
Fluke 333	600	600	400A			6000Ω	Υ								Υ	30mm	CAT III 600V
Fluke 334	600	600	600A			6000Ω	Y							Υ	Υ	30mm	CAT III 600V
Fluke 335	600	600	600A		Υ	6000Ω	Υ							Y	Υ	30mm	CAT III 600V
Fluke 336	600	600	600A	600A	Υ	6000Ω	Υ							Y	Υ	42mm	CAT III 600V
Fluke 337	600	600	1000A	1000A	Υ	6000Ω	Υ	400 Hz				Υ		Y	Υ	42mm	CAT III 600V
Fluke 902	600	600	600A	200µA	Υ	9999Ω	Υ		1000µF		+400°C			Y	Υ	42mm	CAT III 600V
Fluke 373	600	600	600A		Υ	6000Ω	Υ		1000µF					Υ	Υ	75mm	CAT III 600V/ CAT IV 300V
Fluke 374	600	600	600A/2500A	600A	Υ	6000Ω	Υ		1000µF					Y	Υ	75mm	CAT III 600V/ CAT IV 300V
Fluke 375	600	500mV/600	600A/2500A	600	Υ	60Ω	Υ	500 Hz	1000µF					Y	Υ	75mm	CAT III 600V/ CAT IV 300V
Fluke 376	1000	500mV/1000	600A/2500A	1000A	Υ	60Ω	Υ	500 Hz	1000µF			Υ		Y	Υ	75mm	CAT III 600V/ CAT IV 300V
Fluke 381	1000	1000	600A/2500A	1000A	Υ	60Ω	Υ	500 Hz		Υ		Υ		Υ	Υ	75mm	CAT III 600V/ CAT IV 300V
Fluke 365	600	600	200A	200A	Υ	6000Ω	Υ							Y	Υ	18mm	CAT III 600V
Meterman AC75	750	1000	600A	4000µA		40ΜΩ	Υ		4000µF		400°C			Y	Υ	33mm	CAT III 600V
SK7830				200A											Υ	20mm	CAT III 300V
SK7706	600	600V	2000A	2000A	Υ	40kΩ	Υ	25kHz		Υ	150°C	Υ			Υ	55mm	CAT III 600V
SK7815	600		300mA/60A									Υ			Υ	30mm	CAT III 300V
SK7825	600V		40mA/100mA												Υ	40mm	CAT III 300V
Megger MMC850			100A											Y	Υ	13mm	CAT III 600V
Martindale CM51			300A											Y	Υ	27mm	CAT III 300V
Martindale CM54	750	1000	1000A			2000ΜΩ	Y								Υ	57mm	CAT III 1000V
Martindale CM56	750	1000	1000A			30MΩ	Υ	32 kHz		Υ			Y		Υ	57mm	CAT III 1000V
Martindale CM58	750	1000	1000A	1000A	Υ	40ΜΩ	Υ	400 kHz	40μF	Υ		Υ	Y		Υ	57mm	CAT III 1000V
Chauvin Arnoux F05	600	600	400A	400A	Υ	40kΩ	Υ	20 kHz			+1000°C	Υ		Y	Υ	26mm	CAT III 600V
Chauvin Arnoux F07	600	600	400A	400A	Υ	40kΩ	Υ	20 kHz			+1000°C	Υ		Y	Υ	26mm	CAT III 600V
Chauvin Arnoux F11N	600	600	400A	400A		4kΩ	Υ					Υ			Υ	42mm	CAT III 600V
Chauvin Arnoux F15	600	600	400A	400A	Υ	4kΩ	Υ	4 kHz				Υ			Υ	42mm	CAT III 600V

# Voltage & Socket Indicators, Proving Units

# Fluke Voltage Testers



Simple solution to voltage and continuity testing. The T120 & T140 feature a digital LCD display, the T140 also has a backlight.

Batteries supplied.

PRODUCT CODES: FLUT50, FLUT120 FLUT100, FLUT140

	T50	T100	T120	T140
Voltage AC/DC	12 - 690V	12 - 690V	12 - 690V	12 - 690V
Continuity	0 - 200kΩ	0 - 400kΩ	0 - 400kΩ	0 - 400kΩ
Frequency	0 - 65Hz	0 - 400Hz	0 - 400Hz	0 - 400Hz
Phase Rotation	-	100 - 690V	100 - 690V	100 - 690V
Resistance	-	-	-	up to 1999Ω

# **Martindale Voltage & Continuity**



An excellent value Voltage and Continuity tester for universal applications.

- AC/DC detection up to 690V
- Continuity testing with optical and acoustic indication up to  $200k\Omega$
- Meets EN61243-3, IEC 61010, GS38
- CAT III/690V rated
- Bright LED indication

PRODUCT CODE: MARVT12

#### **Martindale VIPD**



Available as separates

Nothing is more dangerous than trusting a defective voltage indicator to test for a dead circuit. Safe electrical work requires the use of a voltage indicator that has been proved with a proving unit before and after use.

The proving unit produces 690V AC/DC to enable voltage indicators to be fully checked. The voltage indicator rapidly and safely checks for AC and DC voltages from 50V to 600V.

The unit fully meets all the GS38 and EN61010 recommendations. The Martindale package of VI13700G & PD690 comes complete with a free carry case.

PRODUCT CODE: MARVIPD

## Fluke T5 Series Electrical Testers



Tests current up to 100A, resistance up to  $1000\Omega$ , continuity and AC / DC voltage (T5-600 up to 600V, T5-1000 up to 1000V). Simply select the desired function via the rotary dial and the tester does the rest.

Does not need to clamp around the cable, just put it in the jaws.

PRODUCT CODES: FLUT5-600, FLUT5-1000

# **Martindale Voltage Indicator**



Widely considered as the industry standard, the Martindale VI13700G is a 50 - 600V neon indicator, with a GS38 compliant fused return lead.

The indicator has retractable shrouds for extra safety. Approved by the Electricity Council, recommendation

PRODUCT CODE: MARVI13700G

# Non Contact Voltage Detection



PRODUCT CODES: MARTEK100, MARTEK200

The TEK100 detects voltage from 100V to 600V AC. The presence of this voltage will generate an audible tone, together with a red visual indication.

The TEK200 additionally detects the presence and polarity of magnetic fields produced by indicators, relays, solenoids and transformers.

Built in proving circuit for extra safety, removes the need for a separate proving unit.

# Martindale Proving Unit

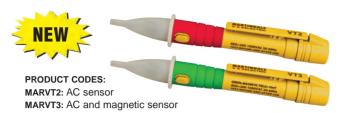


The PD690 produces 690V AC/DC to enable complete checking of voltage indicators. Suitable for use with most voltage indicators, including the Martindale V113700G & Drummond test lamps

This unit is not recommended for use with multimeters.

PRODUCT CODE: MARPD690

# **Martindale Voltage Indicators**



Non contact voltage and magnetic indicators.

They can check for the presence of an AC voltage in many places like wall sockets, fuses, cables, circuit breakers.

The VT3 adds magnetic detection.

## Fluke Volt Alert & Volt Light



Indicates the presence of AC voltages between 200 - 1000V. The tip glows red to indicate voltage and it continually tests battery and circuit integrity with periodic flashing.

PRODUCT CODES:

FLUVOLT: NON CONTACT VOLTAGE DETECTOR, DETECTS 200-1000V

FLULVD1: NON CONTACT VOLTAGE DETECTOR WITH TORCH, DETECTS 40-300V FLULVD2: NON CONTACT VOLTAGE DETECTOR WITH TORCH, DETECTS 90-600V

#### **Martindale Fuse Finders**



Fuse finders are the best way to locate which fuse controls which circuit at the distribution board. The FD500 is an analogue unit (pictured centre), supplied with a transmitter, which can also allow tracing from socket to socket. The receiver has adjustable sensitivity allowing detection even on a crowded fuse board. The FD550 has a digital receiver and brings multilevel microprocessor controlled sensitivity to fuse and breaker identification.

Both models can be supplied as kits (FD600 analogue and FD650 digital), with an enhanced transmitter which can connect to light fittings etc using croc clips as well as to 13A sockets.

MARFD500, MARFD600, MARFD550, MARFD650

# **Martindale Phase Rotation Indicator**



A continuity indicator that will quickly and simply prove continuity of all three lines, or identify which are faulty, and shows the sequence of phase rotation.

The fused probe with GS38 compliant retractable shields give a choice between long exposed tips for reaching inaccessible contacts and safer, shorter lengths for increased safety.

PRODUCT CODE: MARPC15250

# **Drummond Test Lamps**



The low cost Drummond MTL7 test lamp is ideal for low cost voltage testing, it's fuse protected and fully complies with GS38.

The MTL9C also incorporates a continuity test and LED built into the lamp body to show voltage presence if the lamp fails.

Test lamps should always be used with a proving unit.

PRODUCT CODES: DRUMTL7, DRUMTL9C

#### MTI 10

- Safe indication of voltage between 50V & 500V AC/DC.
- Complies with BS EN61243-3, BS EN61010 & GS38.
- Four bands of illumination, 360° viewing angle, provide indication of voltages above 50,100, 200 & 400 volts

#### MTL20

 Adds two test buttons, one on the body of the unit and one on the probe.
 Pressing of both switches allows the unit to draw a high current, safely avoiding false indication of phantom voltages.

PRODUCT CODES: DRUMTL10, DRUMTL20

# **Martindale Phase Sequence Indicator**



PRODUCT CODES:
MARPSI3000: CLOCKWISE ROTATION
MARPSI3300: ANTI-CLOCKWISE
ROTATION

The PSI3000 is a phase sequence indicator combining a rotating disc with fault indicators, showing if any of the phases are down.

The disc will continue to rotate after disconnection, allowing more time to identify phase sequence.

A velcro strap allows the unit to be easily attached to conduits etc, leaving hands free to use the test leads.

#### Fluke Phase Rotation Indicators



PRODUCT CODE: FLU9040

The Fluke 9040 is effective for measuring phase rotation in all areas where three phase supplies are used to feed motors, drives and electrical systems. It gives clear indication of the 3 phases and rotation via the LCD display.



PRODUCT CODE: FLU9062

Identifies phase rotation using the 3 leads supplied. For conventional motors not controlled by frequency convertors it can identify the rotation direction using a noncontact method.

# **Megger DET3 Series Earth Testers**



**DET3TD:** Digital earth tester, complete with leads and spikes for 2 or 3 pole testing.

DET3TC: 3 pole earth testing kit

**DET4TD2:** Four pole soil resistivity testing

**DET4TR2:** Rechargeable four pole soil resistivity testing basic kit

PRODUCT CODES: MEGDET3TD MEGDET3TC MEGDET4TD2 MEGDET4TR2

**DET4TC2:** Extended test range to 200Ω, User selectable test frequency and voltage, 2, 3 and 4 point testing at the turn of a switch, Attached Rod Technique (ART) enabled, Stakeless measurements enabled , Automatic circuit checking, Weather and dust proof to IP54, With lead and stakes packed in a hard wearing carry case, Delivered with a FREE calibration certificate.

NOTE: clamps not included.

**DET4TCR2:** Same as above but this unit is rechargeable

PRODUCT CODES:

MEGDET4TC2

MEGDET4TC2 + CLAMPS MEGDET4TC2 + KIT earth system testing field pack for four pole, attached rod and stakeless techniques. Includes ICLAMP (for ART testing) and VCLAMP (adds stakeless testing)

DET4TC2 + clamps: Complete

**DET4TCR2 + clamps:** Same as above but this unit is rechargeable

**DET4TC2 + kit:** Same as DET4TC2 + clamps but also includes professional ground testing kit in separate hard carry case.

**DET4TCR2 + kit:** Same as above but this unit is rechargeable

MEGDET4TCR2

MEGDET4TCR2 + CLAMPS

#### **Robin K4105 Earth Tester**



The K4105 earth tester complies fully with the regulations for measurement of earth electrodes according to the IEE Wiring Regulations.

This compact unit comes complete with test leads, carry case and earth spikes.

PRODUCT CODES: ROBK4105

Function	Range	Accuracy
Earth Voltage	0-199.9V (50, 60Hz)	± (1% rdg + 4dgts)
Earth Resistance	0-19.99Ω 0-199.9Ω 0-1999Ω	$\pm$ (2% rdg + 0.1 $\Omega$ ) $\pm$ (2% rdg + 3dgts) $\pm$ (2% rdg + 3dgts)

#### Chauvin Arnoux CA6460 & CA6462



Contained within a rugged case, the Chauvin Arnoux earth testers are easy to use and ideal for 3 or 4 pole earth testing.

Both have a measuring range of 0.01 -  $2000\Omega$  with a clear LCD digital display. The CA6462 is also supplied with a NiMH rechargeable battery. Spike kits are not supplied with the testers.



Fluke's 1623 & 1625 can perform all four types of earth ground measurement and are available as a standalone unit, or as part of a full kit containing  $4 \times 80 \times 10^{-2} \times 10^{-2}$  x 50m cable, sensing clamp, inducing clamp, test leads & carry case.

Fluke 1623: Digital earth tester for both 3 & 4 pole measurement, selective earth resistance measurement via optional clamp, stakeless earth loop resistance testing using optional clamps, IP56 rated for outdoor use, display shows which stakes or clamps need connecting.

**Fluke 1625:** As the 1623 with automatic frequency control to identify interference and select a suitable measuring frequency.

Both units have a measuring range of  $0.001\Omega$  to  $19.99k\Omega$ 

PRODUCT CODES: FLU1623, FLU1623KIT, FLU1625, FLU1625KIT

# Spike free earth measurements

# e irr b trr a

Suited to measuring earth resistance of installations such as buildings, pylons, RF transmitter sites and also lighting protection systems without needing spikes.

Megger DET10c & DET20c

**DET10c:** Digital clamp, resistance range 0.025 -  $1500\Omega$ , current range 0.2mA - 35A.

**DET20c:** As the DET10c with download function. Supplied with RS232 lead and software.

PRODUCT CODES:
MEGDET10C, MEGDET20C

# Fluke 1630 Earth Resistance Clamp



PRODUCT CODE:

Heavy duty earth resistance clamp, suitable for taking measurements of lightning protection systems.

Features a large jaw opening of 35mm with a resistance range of  $0.025\Omega$  to  $1500\Omega$ .

Measurement of earth leakage current from 0.2mA to 1000mA and ac current measurement from 0.2A to 30A, allowing for one single instrument to cover multiple applications.

# PACT TOMKAT2 Underground Cable Detector



The TOMKAT 2 Cable Locator is used to assist in the location of buried pipes and cables to a depth of 3 meters and offers three modes of location.

POWER MODE: Locates live cables radiating a detectable able signal.

RADIO MODE: Locates buried metallic conductors carrying a detectable vlf signal.

GENERATOR MODE: Locates buried metallic conductors carrying a detectable signal by induction or connection using the signal generator.

Fingertip controls allow for adjustment of the sensitivity control and enable rapid switching between the TOMKATS three operating modes. PRODUCT CODES: PACTOMKAT2

#### **PACSIGEN2**

The SIGEN 2 works in conjunction with the TOMKAT 2 Cable Locator. There are two ways in which the SIGEN 2 operates. The first is by applying a signal by induction, the second is by direct connection.

PACTOMKATKIT1: TOMKAT 2 & SIGEN 2 kit, save when you buy both items.

PACTOMKATKIT2: TOMKAT 2 & SIGEN 2 kit & carry bag.

PACELECKIT: TOMKAT 2, SIGEN 2, signal clamp & carry bag.

PACBUILDKIT: TOMKAT 2, SIGEN 2, signal clamp, 5mtr Sonde & carry bag. Ideal for locating live / dead cables & pipes.

**PACPLUMBKIT:** TOMKAT 2, SIGEN 2, 5mtr Sonde & carry bag. Ideal for location of live / dead cables and pipes.

# **CSCOPE MXL & MXT Pipe and Cable Detector**





You can quickly detect and trace buried pipes and cables with these high performance pipe and cable locating equipment.

These are easy to use and built to last.

#### MYI

Power Mode - Sweep to detect live cables radiating energy levels Radio Mode - Detects and homes in on conductors via re-radiated radio signals, ideal for detecting metal gas or water pipes and phone cables.

PRODUCT CODES: CSCOPEMXL, CSCOPEMXT



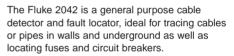
# **Megger Cable Fault Locators**





PRODUCT CODES: MEGTDR1000 MEGTDR2000/2 MEGTDR2000/2P

# **Fluke 2042**



The system can be used on live or dead circuits and consists of a locator and transmitter, supplied with test leads & batteries, in a hard carry case.

A second transmitter (2042T) can be purchased for better accuracy when pinpointing breaks in cables.

#### **TDR1000**

The TDR1000/2 is a handheld, compact Time Domain Reflectometer for locating faults on metallic cables. It has a best resolution of 0.1m / 0.3ft and a  $3 \, \text{km}$  / 9000ft maximum range.

Simple to use, with each key having a dedicated function to increase productivity and reduce the chances of making time consuming mistakes. The TDR1000 can be used on Telecom TNV-3 circuits, or 300V CAT III power circuits (no blocking filter required).

#### TDR2000/2

The TDR2000/2 is a dual channel Time Domain Reflectometer, capable of identifying and locating a wide range of faults. Traces can be stored in memory for later comparison. Designed for use on Telecom TNV-3 circuits, both good and bad cores within the cable can be compared with just the difference displayed.

The TDR2000/2P is specifically designed for the power industry and can be used on either dead or live cables to CAT III 300V Phase to Earth or 415V Phase to Phase. No blocking filter is required.

Both the 2000 series TDR's are supplied with Trace Master PC software, which offers download and upload facilities, as well as printing out trace documentation.



PRODUCT CODES:

FLU2042, FLU2042T

PRODUCT CODE: MEGTDR900

# **Megger TDR900**

Basic cable fault locator & cable length meter

#### Features:

- With a range capability that spans from 5 m (15ft) to 3 km (10,000 feet) and minimum resolution of 50cm (20 inches), this meter is ideal for many applications.
- Automatic output impedance control, auto-range, auto-zero & auto-sensitivity allowing for close matching of cables under test
- Displays cable length if the VOP is known (velocity of propagation), or VOP if the cable's length is known.
- 20 internal memory storage locations for custom VOP settings
- Internal library of 39 standard cables for quick and easy measurement
- Tone generator for cable identification and tracing
- Line voltage detection, stops operation if line voltage exceeds 6.5V

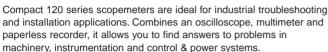
# Scopemeters & Oscilloscopes

# Fluke 125 Scopemeters









- Dual-Input 40MHz or 20MHz digital oscilloscope
- Two 5,000 count true-RMS digital multimeters
- A dual-input Trend Plot recorder
- Connect-and-View trigger simplicity for hands-off operation
- Shielded test leads for oscilloscope, resistance and continuity measurements
- 10:1 voltage probe included with Fluke 124 for high frequency measurements
- 600V CAT III safety certified
- Optically isolated RS-232 interface

The 125 has all the capabilities of the 124 Scope Meter extended with the capability to measure and analyze the signal quality on the common industrial buses.

#### PRODUCT CODES:

 FLU123:
 20MHZ FLU123/S:
 20MHZ, INCLUDING SCC120 KIT

 FLU124:
 40MHZ FLU124/S:
 40MHZ, INCLUDING SCC120 KIT

 FLU125:
 40MHZ FLU 125/S:
 40MHZ, INCLUDING SCC120 KIT

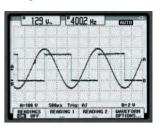
 FLUSCC120:
 KIT INCLUDING FLUKEVIEW SOFTWARE, OC4USB CABLE & CASE

FLUSW90W: FLUKEVIEW SOFTWARE

# Fluke 190 and 200 Scopemeters







Based on the 199C and 196C Colour ScopeMeters, the Fluke 225C and 215C are aimed at maintenance specialists who deal with industrial buses, networks and general electronics. They verify electrical signal quality on industrial buses including Foundation, Modbus, CAN-bus, RS-485 and more. The instruments feature easy signal validation of all the signal parameters, and floating and fully isolated inputs for true differential signal measurements. They allow users to verify the electrical integrity of bus and network, performing physical layer testing and getting answers quickly and easily.

#### PRODUCT CODES:

**FLU196C:** COLOUR DISPLAY, 100MHZ, 1 GS/S **FLU199C:** COLOUR DISPLAY, 200MHZ, 2.5GS/S

FLUSCC190: FLUKEVIEW SOFTWARE, OC4USB CABLE & CARRY CASE

FLUSW90W: FLUKEVIEW SOFTWARE

(TO ORDER WITH THE SCC190 KIT ADD "/S" TO THE RELEVANT PART

NUMBER).

FLU215C: COLOR SCOPEMETER (100 MHZ, 1 GS/S) WITH BUS HEALTH TEST

CAPABILITIES BUILT-IN

FLU225C: COLOR SCOPEMETER (200 MHZ, 2.5 GS/S)

# Megger ETL50 50m Test Lead



50m test lead, ideal for R2 testing, supplied on a reel.

PRODUCT CODE: MEGELT50



#### **R2 Test Lead**

30 metre test lead with 4mm banana plug and croc clip, wound onto a metal frame for storage.

#### **RCD Tester Leads**



Standard RCD tester leads, designed for use with most common makes of RCD tester.

#### PRODUCT CODES:

MARTL88: 3 WIRE, 2 X 10A FUSED PROBES WITH REMOVABLE CROC CLIPS,

1 FIXED CROC CLIP AND IEC CONNECTOR.

MARTL89: AS TL88, SUPPLIED WITH ROUND BULGIN CONNECTOR.

MARTL205: STANDARD IEC MAINS LEAD, 13A PLUG.

MARTL210: IEC MAINS LEAD WITH ROUND BULGIN CONNECTOR, 13A PLUG.

# **Megger Test Leads**

#### PRODUCT CODES:

MEG6220-796: 3 WIRE LEAD SET WITH PRODS & CLIPS (MFT1500/2 SERIES)
MEG6311-089: ILLUMINATED SWITCH PROBE (MFT1502/2, MFT1552, MIT)
MEG6231-601: MFT1500 MAINS LEAD WITH SPECIAL 3 PIN PLUG.
MEG6220-781: SP3 SWITCH PROBE FOR MIT300 SERIES INSULATION
TESTERS.

MEG6220-740: UK MAINS LEAD FOR LT/RCDT300 SERIES LOOP TESTERS.
MEG6220-782: 3 WIRE TEST LEAD SET FOR LT300 SERIES LOOP TESTERS

# If the lead you require is not listed, please call our sales team.

#### **Fused Leads**



The TL5X series are made with double insulated silicone cable, comply with GS38 & BS EN61010 and include 500mA, 600V 50kA rupture rating ceramic fuses. All test leads have 4mm shrouds.

#### PRODUCT CODES:

MARTL55: FUSED TEST LEADS WITH CROC CLIPS & RIGHT ANGLED SHROUD

MARTL56: AS THE TL55 WITH A SPRUNG RETRACTABLE SHROUD MARTL57: AS THE TL55 WITH A STRAIGHT FIXED SHROUD

MARTL58: 3 PHASE LEADS, AS THE TL55 BUT IN RED, YELLOW & BLUE.

# **Loop Tester Leads**



Standard loop tester leads, designed for use with most common makes of loop tester. If the lead you require is not listed, please call our sales team.

#### PRODUCT CODES:

MARTL83: 2 WIRE WITH FIXED CROC CLIPS, 500MA FUSE, FOR FUSE FINDER ONLY.
MARTL84: 2 WIRE WITH PROBES AND CROCS. 10A FUSED. WITH IEC

HOT CONNECTOR.

MARTL85: AS THE TL84, BUT WITH A STANDARD IEC CONNECTOR.

MARTL64: UNFUSED LOOP TESTER WANDER PROBE.

#### Fluke Test Leads

PRODUCT CODES:

FLUTL165X: 3 WIRE FUSED LEAD SET FOR 1650 SERIES.

**FLUTP165X:** SWITCH PROBE FOR 1650 SERIES, 1503, 1507, 1577, 1587.

FLUMPC1360: MAINS LEAD FOR 1650 SERIES.

**FLUTL224:** SUREGRIP TEST LEADS FOR 1503 & 1507 INSULATION TESTERS.

# **Power Analyser Selection Guide**

Whatever your requirements we can supply a product to suit. Below is a brief guide indicating the applications of each product, in ascending order of price, but if you would like to discuss your requirements in more detail, please contact our sales team.

#### **SINGLE PHASE**

Load Monitoring
Elcomponent SPCMINI

#### THREE PHASE

**Load Monitoring**Elcomponent SPCPRO

3 Phase, 3 Wire Power Quality Analysis & Troubleshooting

Chauvin Arnoux CA8335 Elcomponent Energy Pro

3 Phase, 4 Wire Power Quality Analysis & Troubleshooting

Fluke 1735 Fluke 434

Fluke 435

Elcomponent PowerPro Chauvin Arnoux CA8352

#### **VOLTAGE DISTURBANCE**

VR17105

Fluke 1735

Chauvin Arnoux CA8335

Fluke 434

Fluke 435

Elcomponent PowerPro Chauvin Arnoux CA8352

#### **CURRENT INRUSH**

Fluke 434

Fluke 435

Elcomponent Power Pro Chauvin Arnoux CA8352



Elcomponent is the UK's leading specialist power analysis company

# **Elcomponent SPC Mini**



Datalogging clamp meter, capable of measuring up to 600A. Bluetooth technology allows for wireless download to the PC software supplied. Extremely simple to use and ideal for users who only want to monitor current and who need to work out kW, kWh & cost. Up to 2 months continuous logging.

PRODUCT CODE: ELCSPCMINI

# **Elcomponent SPC Pro**



This is the latest development in non-invasive 3 phase data logging, and it makes the job simpler and safer than ever before. Based on the well-proven "3 currents, 1 voltage" hook-up, the only voltage connection it needs is a standard 13A wall socket. Current measurement is via fully isolated flexible hoop CTs which makes the SPCPro incredibly safe to use.

It utilises an automatic 'autorange' feature which maintains remarkable accuracy from levels as low as 1A, all the way to 2000A - with no manual range setting required. Best of all, the sophisticated on-board electronics and dedicated PC software use a unique Elcomponent algorithm to ensure that power and energy (kWh) values are correctly calculated every time! Programming and download is via a new version our acclaimed PowerPackPro software, and hi speed USB connection, so data transfer is fast despite the large memory capacity.

PRODUCT CODE: ELCSPCPRO

# **Elcomponent Energy Pro**



PRODUCT CODES:
ELCENGPRO: SUPPLIED WITH 3 X

1000A CT'S
ELCENGPROFLEX: SUPPLIED WITH
3 X 300/1000/3000A FLEXI CT'S
FLICKER AND 400HZ OPTIONS
AVAILABLE, PLEASE ASK FOR
DETAILS.

Superior power analysis to meet the requirements for fault finding and those carrying out power audits. Its built in 32MB Flash memory allows for long term logging of all parameters. PowerView PC software is provided to download and analyse the data.

The unit measures Volts, Amps, kW, kWh, kVA, kVArh, Hz, PF, THD Volts, THD Amps, Harmonic Amps 1 - 64, Harmonic Volts 1 - 64, Transient Events & Waveform Capture.

# **Elcomponent Power Pro**

The Power Pro is a high-end analyser, ideal for fault finding and energy audits. With 1GB memory it can log many parameters as well as capture flicker and transients as and when they occur. This powerful unit is particularly easy to set up and use.



Suitable for measuring Volts, Amps, kW, kWh, kVA, kVArh, Hz, PF, THD Volts & Amps, Harmonic Amps 1-64, Harmonic Volts 1-64, Transient Events, Waveform Capture, Current Inrush, Voltage Spike Detection.

Also monitors DC supplies.

The unit is supplied with full logging and reporting software.

#### PRODUCT CODES:

ELCPOWERPRO1000: SUPPLIED WITH 4 X 1000A CT'S ELCPOWERPROKIT: SUPPLIED WITH 4 X 300/1000/3000A, FLEXI CT'S FLICKER AND 400HZ OPTIONS AVAILABLE, PLEASE ASK FOR DETAILS.

# Power Analysers & Dataloggers

#### Chauvin Arnoux CA8335



PRODUCT CODES: CA8334: POWER ANALYSER CAAMPFLEX10: 20 - 3000A FLEXI CT'S (X3) 450MM (L) CAAMPFLEX11:

20 - 3000A FLEXI CT'S (X3) 800MM (L)

This is ideal for quick checking of network quality and easy processing of the results. PLEASE NOTE: CT's are sold separately.

Equipped with 4 voltage inputs & 4 current inputs, the Qualistar measures all the voltage, current and power parameters required for full diagnosis of an electrical installation. It simultaneously captures and records all the parameters, transients, alarms and wave forms. Simultaneous real-time display of all 4 inputs is available in graphic, vectorial or value-table format.

In Inrush mode, the measurement covers a duration of more than 1 minute.

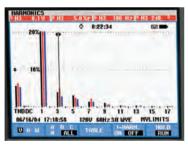
Its storage capacity allows all the parameters to be recorded at the maximum sampling rate over a period of more than one month!

The Qualistar's other advantages include: intuitive configuration, online help and optional direct printing. A USB link is used for communication with a PC.

# Fluke 430 Power Quality Analysers







The 434 and 435 three-phase power quality analysers help you locate, predict, prevent and troubleshoot problems in power distribution systems. With a large memory capacity the units can store data for up to 450 days. The 435 also features an additional logging function which allows you to customise measurement selections and provides instantaneous analysis of user-selectable parameters.

Suitable for measuring Volts, Amps, Frequency, Dips, Swells, Harmonics, Watt, VA, VAR, kWh, kVAh, kVARh, PF, cos, DPF, Flicker, Unbalance, Transients & Inrush Current.

All units are supplied with hard carrying case, 4 x current clamps (i400S with 434, i430 Flex with 435), 5 test leads, battery charger, software (FlukeView with 434, PowerLog with 435), optical download cable, colour localisation set, printed getting started guide and full user manual on CD.

#### PRODUCT CODES:

**FLU434:** THREE PHASE POWER QUALITY ANALYSER

**FLU434LOG:** LOGGER UPGRADE KIT FOR 434, ADDS FUNCTION OF 435 **FLU435:** AS 434 WITH ADDITIONAL LOGGER FUNCTION

FLUI2000FLPQ4: 4 X 2000A FLEXI CT'S
FLUSW43W: FLUKEVIEW SOFTWARE

#### **Chauvin Arnoux CA8352**



PRODUCT CODES:

CA8352: STANDARD UNIT

CAAMPFLEX12: 4 X 3000A FLEXI CT'S, 450MM CAAMPFLEX13: 4 X 3000A FLEXI CT'S, 800MM

For other add ons, including RMS hp, Flicker Meter, Transient Recorder, Data Logger, Remote Control Signals please call our sales team.

Complete 3 phase analysis with a colour LCD & touch screen display. A massive 10 Gigabyte onboard storage allows for continuous logging of all data over long periods.

Suitable for measuring Volts, Impedance, Current, Disturbances, Amps, Watts, Var, VA, Power Factor, cos, Frequency, Active, Reactive, Capacitive & Inductive energies measured (generated & consumed), Unbalance, Harmonics, Interharmonics, Flicker, Transients.

The standard unit features harmonic analysis, oscilloscope mode & vector scope and is shipped with carry case, 4 x current leads, 8 x voltage leads, software & USB cable.

# Fluke VR1710 Voltage Quality Recorder



A single-phase, plug-in voltage quality recorder. It's an easy-to-use solution for detecting and recording power quality problems, allowing for immediate action and less downtime.

Power quality parameters including RMS average, transients, flicker, and harmonics up to the 32nd are recorded using a user-selected average period from 1 second to 20 minutes.

PRODUCT CODE: FLUVR1710

# Fluke 1735 Power Logger



Supplied with 4 x flexi CTs (FS17XX, 15A, 150A, 1500A), Power Log software, Voltage leads & clips, colour localisation set, download cable, adaptor & manual

PRODUCT CODE: FLU1735

The Fluke 1735 Power Logger is the ideal tool for electricians and maintenance technicians conducting energy studies and basic power quality logging.

Suitable for measuring Volts RMS, Amps RMS, Frequency, Harmonics & THD, Active, Apparent, Reactive & Distorting Power Measurement, kWh, KVAh, kVARh, PF, Voltage dips, swells & interruptions.

# **Metrohm LLT11 Basic 11kV Live Line Tester**

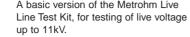


A basic version of the Metrohm Live up to 11kV

The kit comprises of the Live Line Tester, proving unit, earthing lead, cleaning kit and carry case.

This is ideal for users who want a voltage readout, without paying out for a full test kit.

PRODUCT CODE: METLLT11BASIC





PRODUCT CODES:

**Metrohm Live Line Test Kits** 

METLIVELINE3K: 3.3KV LIVE LINE TEST KIT METLIVELINE6.6: 6.6KV LIVE LINE TEST KIT METLIVELINE11K: 11KV LIVE LINE TEST KIT METLIVELINE 13.8K: 13.8KV LIVE LINE TEST KIT 33KV LIVE LINE TEST KIT METLIVE33K:

Utilising a long established technique to detect and measure high voltages and perform phasing tests, this unit incorporates modern, high quality fibreglass rods and polycarbonate mouldings to give a tough, compact construction. Featuring HV detection, phase comparison,

positive phasing test and high voltage measurement.

Each kit is supplied with tester, phasing rod complete with phasing lead, proving unit, 2 extension rods, 2 bent end adaptors, 1 cleaning kit and a heavy duty carry case.

# **Metrohm High Voltage Indicator**



A tough, compact instrument for identifying voltages up to 15kV AC. It consists of a resistive element, neon indicator, hand guard, handle, earth lead, carry case and proving unit.

PRODUCT CODES: METFO357A METDFH5050: 90° BENT END ADAPTOR METDFH5051: 60° BENT END ADAPTOR

# **Metrohm High Voltage Detector**



Determines whether a system is live.

This range of capacitive high voltage detectors is designed to meet the latest IEC standards. There are two types available, one needs to be armed before use, the other activates when voltage is applied to the contact electrode.

Models are available from 11kV to 132kV.

#### PRODUCT CODES:

METHVD01: 11kV - 1.65 to 4.4kV. 50 / 60Hz METHVD03: 33kV - 4.95 to 13.2kV, 50 / 60Hz METHVD04: 11 / 33kV - 3.3 to 4.95kV, 50 / 60Hz METHVD05: 66KV - 9.9 TO 26.4KV, 50 / 60HZ METHVD06: 132KV - 19.8 TO 52.8KV, 50 / 60HZ METHVD07: 66 / 132KV - 13.2 TO 29.7KV, 50 / 60HZ

# **Seaward High Voltage Indicators**



#### NEON INDICATOR

Featuring duplicate neon indicators, permanently connected earth cable, hand guards on all elements and audio alarm (KD1E/KAD only).

Can be used as a potential indicator to determine presence of voltage or as a voltmeter. Provides direct reading of voltage and features a low battery indicator. Digital indicator comes with battery charger, carry case and proving unit.

#### PRODUCT CODES:

SEAKD1E1KV: 11 5KV NEON INDICATOR

1KV - 11.5KV, NEON INDICATOR WITH AUDIO ALARM SEAKD1E/KAD:

SFAKD1F/19: 1.5KV - 19KV, NEON INDICATOR

SEAKD1E/19S: 1.5KV - 19KV, NEON INDICATOR, AC VOLTAGES

SEAKD1E/22: 3KV - 22KV, NEON INDICATOR SEAKD1E/33: 3KV - 33KV, NEON INDICATOR

SEAKD1E/15D: 1 - 15KV DIGITAL INDICATOR RESOLUTION TO 10V SEAKD1E/33D: 3 - 33KV, DIGITAL INDICATOR, RESOLUTION TO 100V

# Seaward High Voltage Phasing **Equipment**



The PR11 provides a means of phase comparison at the point of paralleling two circuits, without the interposition of voltage transformers or secondary wiring circuits.

The PR15 / 33D enables phase angle comparison on neutral earthed systems.

Each unit is supplied with a proving unit and the 15 / 33D is also supplied with battery charger and overhead line extensions.

#### PRODUCT CODES:

SEAPR11D 11KV AC SEAPR15D 15KV AC SEAPR33D 33KV AC

# Flash & High Voltage Insulation Testers

# Fluke 1555 5kV & 10kV Digital Insulation Tester



The new Fluke 1555 (10kV) and redesigned Fluke 1550C (5kV) insulation resistance testers, offer digital insulation testing up to 10 kV, making them ideal for testing a wide range of high voltage equipment including switchgear, motors, generators and cables.

Fluke insulation testers can now conduct the entire range of test voltages. With

measurement storage and PC interface, the 1555 and 1550C are perfect tools for pre-ventative or predictive maintenance programs designed to identify potential equipment failures before they occur.

- Selectable test voltages in 50V steps from 250V to 1000V, and 100V steps above 1000V
- Long battery life gives the user over 750 tests between charges
- Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI) with no additional setup
- · Large digital/analog LCD for easy viewing
- · Capacitance and leakage current measurement
- Ramp function for breakdown testing

#### PRODUCT CODE: FLU1550C, FLU1555

Test Voltage	Range	Accuracy (± reading)
250V	200k $\Omega$ to 5G $\Omega$	5%
	$5G\Omega$ to $50G\Omega$	20%
500V	200k $\Omega$ to 10G $\Omega$	5%
	10G $\Omega$ to100G $\Omega$	20%
1000V	200k $\Omega$ to 20G $\Omega$	5%
	$20G\Omega$ to $200G\Omega$	20%
2500V	200k $\Omega$ to 50G $\Omega$	5%
	$50$ G $\Omega$ to $500$ G $\Omega$	20%
5000V	200K $\Omega$ to 100G $\Omega$	5%
	100G $\Omega$ to 1T $\Omega$	20%
10000V (1555 only)	200k $Ω$ to $200$ G $Ω$	5%
	100G $\Omega$ to 2T $\Omega$	20%

Bar graph range: 0 to 1  $\ensuremath{\text{T}\Omega}$ 

Insulation test voltage accuracy: -0 %, +10 % at 1 mA load current

Leakage current measurement:

Range: 1 nA to 2 mA Accuracy:± (5 % + 2 nA)

# **Megger 5 / 10kV Insulation Testers**

These new insulation testers from Megger are designed specifically to assist you with testing and maintenance of high voltage electrical equipment. Set in a rugged case, rated to IP65, each model has a clear backlit LCD display with analogue arc, displaying voltage, leakage current, capacitance, battery status and time constant.

**MEGMIT510:** Test voltages at 250, 500, 1000, 2500 & 5000V, resistance up to 15T $\Omega$ . Short circuit discharge current at 3 mA, capacitance from 10nF to 50μF, current measurement from 0.01nA to 5mA.

#### PRODUCT CODE: MEGMIT510

**MEGMIT520:** Tests from 50V to 1kV in 10V steps, or 1kV to 5kV in 25V steps, resistance up to 15Τ $\Omega$ . Short circuit discharge current at 3 mA, capacitance from 10nF to 50μF, current measurement from 0.01nA to 5mA. Timer function allows up to 99 minutes and 59 seconds from start of test.

PRODUCT CODE: MEGMIT520



**MEGMIT1020:** As the MIT520, with a test voltage of 50V to 1kV in 10V steps, or 1kV to 10kV in 25V steps, resistance up to 35TΩ.

PRODUCT CODE: MEGMIT1020

## **Chauvin Arnoux 5kV Insulation**



Built to withstand the most severe measuring conditions, the CA6547 5kV insulation tester measures voltage, frequency, capacitance and residual current.

Features include programmable alarms and test duration.

In addition to preset test voltages of 500 / 1000 / 2500 / 5000V, it is adjustable from 40V to 5100V in increments of 10 or 100V. Resistance range is  $10k\Omega$  to  $10T\Omega$ . Leakage current ranges from 0.000nA to  $3000\mu A$ .

Voltage: 1 to 5100V AC/DC

Insulation test voltages: 500/1000/25000/5000V DC + variable from 50

to 5100V DC (10 or 100V increments) Range:  $10k\Omega$  to  $10T\Omega$ 

Capacitance range: 0.005 to 49.99μF Current: 0.0001nA to 3000μA

#### Metrohm 4kV AC Flash Tester



Output range voltage: 0-2.0, 0-4kV 50/60Hz (via 3½ digit LCD in 10V steps) Output short circuit current: 5mA 50/60Hz max

Trip Level Range: 0 to 3mA 50/60Hz
Trip Level Accuracy:
±5% of full range

±5% of full range

Trip response: Will trip for fault duration >5mS and not for <100µS

Digital, mains operated, portable flash tester, capable of operating from either a 115V or 230V, 50/60Hz source. It can apply up to 4kV AC and displays both output voltage and leakage current on the twin 3½ digit LCD's.

Trip, breakdown and burn modes.

The leakage current range is 0 - 5mA and trip level range is 0 - 3mA.

Supplied with earth lead, mains power lead and flash gun.

PRODUCT CODE: METE3640

#### Clare Hal Combi

The Hal Combi offers unprecedented value as it contains the four core electrical safety tests required by routine production line testing.



It features isolated floating test outputs making it probably the safest flash/hi pot tester on the market.

A barcode scanner lets you automate the production flow, and it can be linked directly into most ISO quality systems covering production, laboratory and audit usage.

6000 tests can be stored internally, and can be downloaded to PC for further analysis or SPC. It can be fully controlled from a host device via RS232, or external PLC I/O ports making it ideal for system integration.

PRODUCT CODE:

CLAHALCOMBI

AC Flash Test

Voltage Range: 0.1000 - 5.000kV, 10V steps

Max Output Current: 20mA @ 5kV, 50/60 Hz selectable

Display Current Range: 0.01 - 20.00mA

DC Flash Test

Voltage Range: 0.1000 - 6.000kV, 10V steps Max Output Current: 10mA @ 6kV Display Current Range: 0.01 - 10.00mA

Insulation Resistance DC Output Voltage:

250, 500 OR 1000V selectable or fully adjustable from 10 - 100.0V Resistance Ranges Measurement: 0.1 - 100.0M $\Omega$ , 100M - 1G $\Omega$ 

call 01923 442244

#### **Chauvin Arnoux CA6240**



Allows quick detection of any deterioration between 2 contact points. This means it can be used for a very broad range of applications.

Results can be stored and transferred to a PC via software, to monitor changes in measurements over time, making the CA6240 an essential tool for preventive maintenance.

Suitable for all types of measurements (inductive components, resistances). 7 measurement ranges are accessible with a rotary switch. Each range corresponds to a current from 10 A (4,000  $\mu$ W) to 0.01 A (400 W) selected automatically.

Measurement method: 4 wire method

 Measurement current: 10A
 1A
 1A
 100mA
 10mA
 10mA

 Range:
 400μΩ
 40mΩ
 400mΩ
 40Ω
 400Ω

 Resolution:
 1μΩ
 10μΩ
 0.1mΩ
 1mΩ
 10mΩ
 10mΩ

Accuracy: 0.25% ±2

# **Megger DLRO600**



PRODUCT CODE: MEGDLRO600

The test current is variable from 10A to 600A in 1A steps from  $0.1\mu\Omega$  999.9m $\Omega$ .

#### Measurement

Range:  $0.1\mu\Omega$  to  $999.9m\Omega$ 

(Subject to supply voltage and leads used)

Accuracy:

Voltage  $\pm 0.5\% \pm 0.1$ mV Current  $\pm 0.5\% \pm 0.1$ A Resistance Better than 1% from 100μ $\Omega$  to 100m $\Omega$ 

---

Range: 10A to 600A DC in 1A steps

Accuracy: ±2% ±2A

Go to www.instrotech.com for more milliohmmeters and oil test sets

#### Cropico DO4000



PRODUCT CODE:

This portable Digital Milliohmmeter is a practical instrument for low resistance measurement, ideal for use in the workshop, field or test facilities. The Series 4000 has many features, including Auto ranging, forward and reverse current measurement with auto average, True current zero, protection up to 415 volts RMS, digital

4000 count and auto power down to maximise battery life. LS06 Standard Lead Set supplied with the 4000 series.

calibration and long scale length,

# **Cropico DO5000**



PRODUCT CODE: CRODO5000

All the features required of an ohmmeter in one unit. Programmable measuring current in 100 steps ensures that the DO5000 is suitable for all your applications. All these options are included in the basic unit as well as a data logging function which stores up to 4000 readings with date and time stamp. Statistical analysis of these values allows you to display the Max / Min /Average values as well as peak to peak and standard deviation. It will even calculate cable lengths in ohms/metre.

#### Cropico DO4A



PRODUCT CODE: CRODO4A

Its many advanced features include protection up to 415V, digital calibration and 4000 count digital display.

Simple to use, the DO4A has 6 push button measurement ranges:  $40m\Omega \text{ at a resolution of } 10\mu\Omega \\ 400m\Omega \text{ at a resolution of } 100\mu\Omega \\ 4\Omega \text{ at a resolution of } 10m\Omega \\ 400\Omega \text{ at a resolution of } 100m\Omega \\ 4k\Omega \text{ at a resolution of } 1\Omega$ 

## Cropico DO7+



PRODUCT CODE: CRODO7PLUS

The DO7Plus is a 10A microohmmeter, suitable for applications within Aerospace, Utilities, Cable or Machine Manufacturers or where a cooling curve is required to plot peak resistance. Sealed in an IP67 case (when closed or IP53, lid open) it is ruggedly constructed to ensure durability.

- · Backlit LCD graphics panel,
- · Full QWERTY keyboard,
- Graphical plotting on the LCD.
- Temperature compensation via optional PT100 probe, and built in coefficients for Copper and Aluminium as well as user defined.

# NEW Megger OTS60PB and OTS80PB 60kV and 80kV Oil Test Sets



Megger's automatic portable oil test sets perform accurate breakdown voltage tests on mineral, ester and silicon insulating liquids. Moulded test vessels give repeatable results in the field and laboratory with lock in precision electrode gap setting adjustment wheels. The transparent, shielded lid is a key feature enabling users to see what is happening within the test chamber.

- Lightest portable instruments for measuring insulating oil breakdown voltage (minimum weight 16 kg).
- Lock in precision oil vessel with lockable adjustment
- Bright 3.5 inch colour display visible out doors
- Suitable for mineral, ester and silicon oils
- Trip detection circuit with direct measurement of voltage and current
- $\bullet$  Ultra fast (<10  $\mu s)$  HV switch off time

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# Process Control and Loop Calibrators

#### Fluke 787 / 789 Process Meters



Combining the power of a digital multimeter with a loop calibrator, giving process technicians double the power. The 789 has a built-in 24V loop supply, which reduces the need for taking a separate power supply when doing offline transmitter testing

With its IR communication port, the 789 can also download data to optional Fluke Software FVF-SC2 (see page 8)

	787 (FLU787)	789 (FLU789)
Voltage Range	0 - 1000V AC or DC	0 - 1000V AC or DC
Current Range	0 - 1A or 0 - 30mA	0 - 1A or 0 - 30mA
Current Sourcing	0 - 20mA or 4 - 24mA	0 - 20mA or 4 - 24mA
Max Drive Capability	500Ω	1200Ω
Loop Power		24V
Resistance	Το 40ΜΩ	To 40MΩ
Frequency	To 19.999kHz	To 19.999kHz
Continuity	Beeps < 100Ω	Beeps < 100Ω
Span Check	No	Yes

# **Digitron 2000 Series Pressure Meters / Manometers**



The 2000 Series of pressure instruments offer a wide range of hand-held manometers. Easy to operate, reliable and built to last.

Innovative functions designed to make the operator's job easier set new standards in pressure measurements.

All units have a clear, backlit LCD display, data hold and a typical battery life of 200 hours.

PRODUCT CODE: DIG2000T

#### Fluke 705 / 707 / 707Ex





Loop calibrators for simultaneous measurement of mA & %. Push button for simple selection, the 707 also features a simple to use rotary knob, and the Ex version meets the current ATEX requirements for hazardous areas

> PRODUCT CODES: FLU705. FLU707, FLU707EX

Voltage Range: 0 - 28V DC @ 1 mV **Current Range:** 0 - 24 mA

0 - 20mA or 4 - 24mA **Current Sourcing:** Max Drive Capability: 705: 1000Ω @ 24 mA

707: 12000 @ 24 mA 707Ex: 700Ω @ 24 mA

Loop Power: 24 V Auto Step / Ramp: Yes Span Check: Yes



#### SEE WEBSITE FOR MORE DETAILS

# Fluke 771 / 72 / 73 Process Clamp

PRODUCT CODES: FLU771, FLU772. FLU773



- · Measure mA signals for PLC and control system analog I/O without breaking the loop.
- · Detachable clamp with extension cable. Dual backlit display with mA display
- 0.01mA resolution

#### Fluke 724 Process Calibrator



PRODUCT CODE: FLU724

This gives you everything you need to troubleshoot and calibrate temperature. It can measure & source 10 thermocouple types and 7 RTD types, plus volts and ohms. It even handles high-speed pulsed RTD circuits and provides loop power.

The dual line measure/source display lets you source temperature and view loop current at the same time. With its simple, 'no menus' controls, it is easy to operate.

Supplied with: test leads, test clips and one pair of stackable test leads.

# **Digitron PM20 Series**



Based on the same technology as the 2000 series, the PM20 meters offer good performance at a reasonable price.

Specifically designed for engineers using twin tube connections, the PM range is ideal for soundness testing and setting up boiler differential gas pressures

#### PRODUCT CODES:

DIGPM20	mbar
DIGPM21	kPa
DIGPM22	in/H <sub>2</sub> 0
DIGPM23	mm/H <sub>2</sub> 0
DIGPM24	in/Hg
DIGPM25	mm/Hg
DIGPM26	Psi
DIGPM80	Selectable

Model	Operating Range	Pa	in H <sub>2</sub> O	m H <sub>2</sub> O	in Hg	m Hg	PSI	Range Lock	Max Min	Avg	Leak Testing	Logging
DIG2000P7	25mbar	2500	10.05"	255.3mm	0.73"	18.75mm	0.36					
DIG2001P7	130mbar	13.00kPa	52.28"	1320mm	3.83"	97.5mm	1.88					
DIG2002P7	2bar	199.9kPa	804"	20.43m	59.00"	150.0cm	29.00					
DIG2003P7	7bar	700kPa	2815"	71.5m	206.7"	5.25m	101.5					
DIG2005P7	2bar	199.9kPa	804"	20.43m	59.00"	150.0cm	29.00					
DIG2007P7	500mbar	50.0kPa	201"	5.11m	14.75"	37.5cm	7.25					
DIG2008P7	1bar	100.0kPa	402"	10.22m	29.5"	75.0cm	14.50					
DIG2020P7	25mbar	2500	10.05"	255.3mm	0.73"	18.75mm	0.36	Υ	Υ			
DIG2021P7	130mbar	13.00kPa	52.28"	1320mm	3.83"	97.5mm	1.88	Υ	Υ			
DIG2022P7	2bar	199.9kPa	804"	20.43m	59.00"	150.0cm	29.00	Υ	Υ			
DIG2023P7	7bar	700kPa	2815"	71.5m	206.7"	5.25m	101.5	Υ	Υ			
DIG2026P7	10bar	1000kPa	4022"	102.2m	295.3"	7.50m	145.0	Υ	Υ			
DIG2080P7	25mbar	2500	10.05"	255.3mm	0.73"	18.75mm	0.36	Υ	Υ	Υ	Y	Υ
DIG2081P7	130mbar	13.00kPa	52.28"	1320mm	3.83"	97.5mm	1.88	Υ	Υ	Υ	Υ	Υ
DIG2082P7	2bar	199.9kPa	804"	20.43m	59.00"	150.0cm	29.00	Υ	Υ	Υ	Υ	Υ
DIG2083P7	7bar	700kPa	2815"	71.5m	206.7"	5.25m	101.5	Υ	Υ	Υ	Υ	Υ
DIG2085P7	2bar	199.9kPa	804"	20.43m	59.00"	150.0cm	29.00	Υ	Υ	Υ	Y	Υ
DIG2086P7	10bar	1000kPa	4022"	102.2m	295.3"	7.50m	145.0	Υ	Υ	Υ	Υ	Υ
DIG2087P7	500mbar	50.0kPa	201"	5.11m	14.75"	37.5cm	7.25	Υ	Υ	Υ	Υ	Υ
DIG2088P7	1bar	100.0kPa	402"	10.22m	29.5"	75.0cm	14.50	Υ	Υ	Υ	Υ	Υ

#### **Combustion Meter KM250**



PRODUCT CODES: KANKM250, KANKM250KIT The Kane 250 is a simple-to-use combustion meter, which can accurately measure O<sub>2</sub>, CO & temperature, as well as calculate CO<sub>2</sub>, CO/CO<sub>2</sub> ratio and efficiency.

A multi-fuel, gas and oil meter, the unit comes supplied with a detachable flue probe. Can be purchased as a kit with printer, rechargeable batteries with charger, and carry case.

## **Boiler Analyser KM455**



Compact boiler analyser with high accuracy pressure readings. The KM455 has a four line display, controlled by a 9 position rotary switch, measures O<sub>2</sub>, CO<sub>2</sub>, differential pressure and differential temperature as well as calculating CO / CO<sub>2</sub> ratio, excess air and efficiency.

## Combustible Gas Sniffer LS1



PRODUCT CODE: KANLS1

Pinpoints leaks of any combustible gas as low as 10ppm methane.

Simple one handed operation using thumbwheel to set "tick rate."

Features flexible gooseneck with illuminated tip to find awkward leaks, audible and visual alarm for operator safety and is supplied with earpiece and soft carry case.

# **BW Technologies Gas Monitors**



The latest multi-gas detector from BW Technologies, the Gas Alert Micro Clips is smaller, lighter in weight and provides a true one-button operation.

At just 160g, the clip is fully water-proof rated IP67 and is ATEX approved. Detects up to four hazards including H2S, CO, O2 and combustibles

# **Crowcon Triple Plus + Intrinsically Safe Portable Multigas Monitors**



The Triple Plus family has set the standard for portable multigas monitors

- Up to four gases measured
- Interchangeable sensors allows full flexibility
- Large simultaneous four gas display with backlight
- Loud audible alarm
- Bright visual alarm
- Full timed data-logging file with 100 hour capacity
- User and site name logging
- Easy selection of flammable gas correction factors
- User menu allows calibration without PC connection

Call us on 01923 442244 for more Gas Analyser Products

# Multi Gas Analyser KM900 Plus



PRODUCT CODE: KANKM900PLUS

Ranges

O2: 0-2190 CO: 0-10000ppm NO: 0-5000ppm

Accuracy

O2: ±0.2%

CO: ±20ppm <400ppm

±5% < 500

NO: ±5ppm<100ppm ±5% > 7100ppm The KM900 Plus displays up to 8 parameters simultaneously and can measure O<sub>2</sub>, flue & nett temperature as well as calculating CO<sub>2</sub>, boiler efficiency, excess air and losses.

CO<sub>2</sub> is measured with a hydrogen compensated sensor for increased accuracy. The 900 Plus also measures CO<sub>2</sub> & calculates CO/CO<sub>2</sub> ratio, giving complete readings for boiler analysis and safety.

The standard unit measures NO and calculates NOx. Optionally you can change these sensors for either  $NO_2$  or  $SO_2$ , and fit with NO or SO sensors with different measuring ranges.

Supplied with flue gas probe, protective rubber sleeve, battery charger, manual and carry case.

#### Refrigerant Leak Detector RD99



PRODUCT CODE: KANRD99

A handy unit for detecting CFC's, HFC's and HCFC's, including R11, R22, R134A etc.

High sensitivity setting will locate leaks down to 3gm/year of R134A.

Features flexible gooseneck probe, simple one-handed operation, audible and visual indicators, and a rubber sleeve to protect the instrument and probe.

# **Carbon Monoxide Detector CO90**



PRODUCT CODE: MARCO90

Range: 0 - 1999ppm Initial accuracy: ± 5% of reading ± 5ppm Rapid responding carbon monoxide meter, ideal for safety level checking.

A beeper gives an audible indication, speeding up with CO concentration, and becoming a continuous tone above 200ppm.

Max and Hold buttons allow one reading (or the highest) to be displayed over a period of time.

# **Intrinsically Safe Gas Monitor TETRA 3**



PLEASE SPECIFY REQUIRED GASES WHEN ORDERING

PRODUCT CODE: CROTET3

The Tetra 3 multi-gas monitor (up to 4 gases) is the newest addition to the Tetra family. Simple single button operation, small size and weight make it the easiest to use gas detector on the market. Based on the proven and highly successful Tetra product, the Tetra 3 is designed for use in demanding industrial environments. Despite its compact size the Tetra 3 is ultrarugged and waterproof.

Gas	Range	Alarm UK
Flammable	0-100%LEL	20%LEL
Oxygen	0-25%	19/23.5%
Hydrogen Sulphide	0-50ppm	5ppm
Carbon Monoxide	0-500ppm	30ppm

Other ranges and alarm levels are available on request. Each gas channel can have two instantaneous alarm levels set. Toxic channels also have Time Weighted Average alarms.

#### **Martindale SP75 Sound Level Meter**



Compact sound level meter that can be used one handed or it can be mounted on a tripod (not included) for measuring over long periods.

The Time Weighting can be set to Slow (for normal use) or Fast to check the average level of Frequency noise.

Similarly the Frequency Weighting can be A or C with C suitable for low frequency noise. An AC / DC output allows capture of reading for later analysis (output is approx. 10mV DC/dB).

Measuring ranges selectable: 35 - 90dB or 75 - 130dB. Accuracy is  $\pm 11/2dB$ .

PRODUCT CODE: MARSP75
Suitable for general sound monitoring

#### **Casella Sound Level Meters**



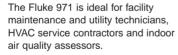
With intuitive 2 key operation, this sound level meter is easy to use, designed to undertake noise measurements for a variety of applications.

The CEL-240 Digital Sound Level Meter is ideally suited to general noise measurements, noise measurements of alarm systems and noise output from audio systems. With the high resolution display unparalleled in such an inexpensive unit, the CEL-240 Sound Level Meter can display the time-history of noise levels, allowing an easy assessment of the current noise environment.

Measurement range: 30-130dB RMS Selectable range: 30-100 or 60-130dB Accuracy: ANSI S1.4 Type 2, IEC 61672-1 2002-5

# Fluke Thermo Humidity Meter





- Min / max / avg and data hold
- 99 record storage capacity and backlit display.

Simultaneously measures humidity and temperature.

Dew point and wet bulb.

Built-in belt clip and protective holster.

Temperature range: -20 - +60°C
Temperature accuracy: ±0.5°C
Humidity range: 0-60°C 5-95% RH
Humidity accuracy: ±2.5% RH

PRODUCT CODE: FLU971

## **Martindale Light Meters**



Low cost light meters from Martindale, suitable for measuring low light (LM90), or high light ranges (LM92). The handbook gives details of conversion factors for different light wavelengths, allowing more accurate measurements. Peak and Hold allow max readings to be kept. Results can be displayed in Lux or Foot candles.

MARLM90: 20lux, 200lux, 200lux, 20klux
MARLM92: 200lux, 2000lux, 20klux, 200klux
Suitable for general purpose use

# Minolta T10 Professional Light Meter



High-quality professional light meter, resolving down to 0.01 lux with a high accuracy.

It measures continuous or flickering light by adjusting response time and can integrate illumination over time and display the total illuminance and the time period. Different sources can be compared via its memory feature.



Range: -0.01 – 2999 00 LUX Accuracy: ±2% ± 1 digit of displayed value

PRODUCT CODE: MINT10

Suitable for certification purposes

## **TEK500 Microwave Leakage Detector**



An easy-to-use, low cost, pass/fail microwave leakage detector suitable for commercial and domestic microwave ovens. It's designed to comply with national standards on permitted exposure levels.

The TEK500 includes a self test which simulates a real microwave input to ensure the unit is working properly. Supplied with a thermometer, beaker and carry case for tests to BS EN5175.

PRODUCT CODE: MARTEK500

#### **Chauvin Arnoux Moisture Meter**



Designed to measure the level of moisture in wood and construction materials such as plaster and roughcast, etc. For wood, the instrument gives a direct reading of the level of moisture, expressed as a % of H<sub>2</sub>0 between 6% and 100%. For other construction materials, the instrument determines the wood moisture equivalent.

Features two 20-LED display scales: from 6 to 23% and 24 to 100%, replaceable electrodes, removable protective sensor cover and rugged protective rubber holster. (Not recommended for measurements in concrete.)

PRODUCT CODE: CA847

#### Martindale AV90 Thermo-Anemometer



This anemometer displays temperature (C or F) and airflow at the same time. Max and min figures for both can be shown, and up to 8 readings can be taken and automatically averaged for better accuracy.

Measurements can be taken over 2 or 16 seconds with the average range being displayed.

PRODUCT CODE: MARAV90

Wind velocity Range: 0-30m/s Temperature range: -20 - +60°C Accuracy: ± 0.5°C

# Thermometers, Distance Meters, Probes, Socket Testers

#### Fluke 63 / 66 / 68 IR Thermometers



Suitable for professional use as diagnostic tools, these non-contact, gun type, infrared thermometers, with laser beam, are ideal for taking quick and accurate measurements.

**Fluke 63:** Measures from -32 to +535°C with max display.

**Fluke 66:** Measures from -32 to +600°C with min / max / avg / differential readings, datalogging, hi / lo alarm and adjustable emissivity.

**Fluke 68:** Measures from -32 to +760°C with min / max / avg / differential readings, datalogging, hi / lo alarm and adjustable emissivity.

PRODUCT CODES: FLU63, FLU66, FLU68

#### Fluke 50 Series Thermometers

Fast responses and laboratory accuracy

High quality, versatile thermometers

Large backlit display shows a combination of T1, T2, T1 - T2 (52 & 54 only)

Min / max / avg with relative time clock

Electronic Offset function allows compensation of thermocouple errors to maximise overall accuracy

Readout can be set to °C. °F or Kelvin

Fluke 51: Single Input, Accepts J,K,T,E Type Probes Fluke 52: Dual Input, Accepts J,K,T,E Type Probes

**Fluke 53**: Single Input, Accepts J,K,T,E,N,R,S Type Probes, 500 Point Datalogging with user adjustable recording interval.

Fluke 54: As the 53 with Dual Input.

PRODUCT CODES: FLU51, FLU52, FLU53, FLU54, FLUFVF-SC1 (SOFTWARE)

# **Martindale Dual Input Thermometer**



High quality, dual-input digital thermometer, with temperature differential capability. It's able to measure input / output temperature and temperature differentials through boilers, radiators etc and can accept a wide range of K type probes. Measuring range is from -50°C to +1300°C.

Switchable between 0.1°C and 1°C resolution, with hold and maximum buttons. Supplied with two bead type thermocouples, battery, manual & protective holster.

PRODUCT CODE: MARDT75

# Martindale Infrared Gun-Type Thermometer



This pistol style infrared thermometer has a laser marker to ensure accurate spot measurement. The display can show temperatures in Fahrenheit or Celsius.

A limit function sets upper and lower temperature thresholds and a tone alerts if the limits are exceeded

PRODUCT CODE: An optional auto power off feature can MARIR88 conserve battery life.

Go to www.instrotech.com for thermometer probes

## Fluke 561 HVAC IR Thermometer



Designed for the HVAC engineer, the 561 can be used as a non-contact thermometer, or contact via its K type probe input.

Measuring from -40 to +550°C, with min / max, differential readings, laser beam, adjustable emissivity and velcro pipe probe, this is a handy tool for fast and efficient measuring

PRODUCT CODE: FLU561

MARCP

# Fluke Distance meters 411D, 416D, 421D



PRODUCT CODE: FLU411D FLU416D FLU421D The Fluke laser distance meters bring you the most advanced measuring technology. These meters are fast, accurate, durable, and easy to use — just point and shoot. Their straightforward design and easy, one-button operation mean you spend less time measuring. Unlike ultrasonic distance meters with laser pointers, the Fluke 416D and 411D use a precision narrow laser beam that can avoid the common errors caused by extraneous objects near measurement targets.

		Fluke 411D	Fluke 416D	Fluke421D
	Range	30m	60m	100m
ı	(for extended distances, use a target plate)			
ı	Accuracy	±3mm	±1.5mm	±1.5mm
ı	Measurement units	00.000m	00.000m	00.000m
ı	Measurement storage		10 locations	20 locations
ı	Backlight		•	•
	Automatic power off	After 180 secs	After 180 secs	After 360 secs

## **Martindale Socket Testers**

MARRY101

MAREZ150







The MARCP checkplug is a quick way to check 13A sockets are wired correctly, indicated by 3 bright, long-life LEDs. Wiring errors are indicated by one or more neons not being lit, making it easy to spot a problem.

The BZ101 also gives an audible signal to indicate correct wiring, making it ideal to use in awkwardly placed sockets.

The EZ150 is the first socket tester on the market to give an accurate measurement of earth loop impedance. A safe solution for socket testing as other testers could indicate a "safe" socket with dangerously high earth resistance. The loop test will not trip RCD's. The EZ150 can also be purchased as a kit which comes with a carry case, mains socket test lead & 3 way test lead set for use on cables.

PRODUCT CODES: MARCP, MARBZ101, MAREZ150, MAREZ650 (EZ150 KIT)

# Introduction to thermal imaging Not an X-Ray camera

Infrared light or thermography is the use of an infrared thermal imaging camera to view & measure thermal energy emitted from an object. Thermal, or infrared energy, is light that is not visible because its wavelength is too long to be detected by the human eye it's the part of the electromagnetic spectrum that we perceive as heat. Unlike visible light, in the infrared world everything with a temperature above absolute zero emits heat. Even very cold objects, such as ice, emit infrared.

# Infrared thermal imaging

The higher the temperature of an object, the greater the Infrared radiation emitted. Infrared allows us to see what our eyes cannot. Infrared thermal imaging cameras produce images of invisible infrared or heat radiation and provide precise non-contact temperature measurement



capabilities. Nearly everything gets hot before it fails, making thermal imaging cameras extremely cost-effective, valuable diagnostic tools in many applications. As industry strives to manage energy, improve manufacturing efficiencies, enhance worker safety, and improve product quality, new applications for thermal cameras continually emerge.

It is a common misconception that a thermal camera can see objects through walls or floors, using it as an X-Ray camera. You may even have seen some television shows where a thermal camera is used to see people in a room behind a wall. In the real world this is not the case. A thermal camera will only pick up heat being emitted on the surface of an object, if there is something behind the object that is emitting sufficient heat so as to affect the surface temperature of the object being scanned, then this would show up as a hot spot on the thermal camera, depending on the surface temperature of the object and any reflected temperature.

As an example, if you have a series of cables behind a wall, unless the cables are hot enough to affect the surface temperature of the wall, you will not be able to see where the cables are. However, where underfloor heating has been installed, you would be able to see where this has been laid, as the heat emitted by the element will affect the surface temperature, showing up clearly on the camera.



# **Camera prices**

Thermal cameras have come down in price in recent years but they still represent a significant investment, although one which can pay for itself very quickly. As a guide, based on winter 2010 prices, the ranges fall within the following price brackets:

i / b series: from £1,300.00 to £5,000.00 T / B series: from £7,000.00 to £13,000.00 P / B series: from £23,000.00 to £35,000.00

# Flir i / b Series Cameras - for general purpose electrical and building use

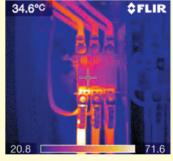


Flir i-series cameras are a low cost solution and ideal for general purpose inspection and preventative maintenance. Suitable for electrical contractors, facilities management & in-house maintenance engineers.

The i5 is the lowest priced camera with an  $80 \times 80$  pixel resolution and the i7 gives a  $120 \times 120$  pixel resolution. Both cameras feature 0°C to +250°C range, auto focus and temperature ranging, simple set-up, storage for up to 5000 jpeg images and an online training course.

With the i40, i50 & i60 the temperature ranges from -20°C to +350°C, and a digital camera is included. Improved thermal resolution and camera features, such as manual temperature ranging, for thermal tuning of an image in realtime, make isolating problems on an image easier.

The i40 has a 120 x 120 resolution, the i50 has a 140 x 140 resolution and the i60 has a 180 x 180 resolution. The picture-in-picture feature improves across the range and the i60 also features Bluetooth voice annotation of up to 60 seconds per image.



Shows a Three Phase System with an overheating phase



The b series cameras are designed specifically for carrying out building surveys. With a temperature range of -20°C to +120°C and the addition of an insulation limit and dewpoint alarm, carrying out basic building inspections and energy loss surveys is made simple.

The b50 has a thermal sensitivity of 90mK and the b60 is 70mK, giving more accurate temperature readings. The resolution and basic features are the same as the equivalent i series models.

Each i / b series camera is supplied with an SD memory card, Li-lon battery for 5 hours continuous use, mains battery charger, calibration certificate, Quick Report software and hard carry case.



Go to www.instrotech.com for more thermal imaging products

# Flir T / B Series Cameras - advanced thermal cameras for diagnostics and consultancy use.

The Flir T / B series cameras offer greater resolution & improved thermal resolution. This enables you to not only locate problems, but also to determine the cause of the problem from the image.

Other enhanced features include voice annotation, scalable picture-in-picture and improved digital camera resolution.

The higher end of the range also offer improved thermal fusion, text annotation, image sketch and instant pdf reports created from within the camera.

Temperature comparison is available on the 365 & 425 models, and the 425 range will also enable periodic image storage and non-radiometric MPEG4 video capture.



B-series cameras are designed specifically for building surveys and feature insulation limit and dewpoint alarms, which are functions specific to carrying out building diagnostics.

T-Series cameras have the following temperature ranges as standard:

T250: -20° to +350°C

T335 & T365: -20° to +650°C

T425: -20°C to +1200°C

The B series cameras have a temperature range of -20° to +120° C, the B425 also has an additional 0° to +350°C temperature range.

Temperature ranges on all cameras can be added up to a maximum of +1200°C, and a range of additional lenses are available for close-up or distance working

Each T or B camera is supplied with 2 x Li-lon batteries, twin bay desktop battery charger, mains charger adaptor with universal plugs, Bluetooth micro USB adaptor, 1GB SD memory card, sun shield, headset, touchscreen stylus, carry strap, printed "getting started" guide, user manual on CD ROM, QuickReport software & hard carry case.

T425 & B425 models are supplied with a Bluetooth headset.





# Flir P / B Series Cameras - best thermal resolution available

The P / B series are the flagship cameras in this range. With a 640 x 480 resolution you will see much more detail. This enables you to not only determine where a problem is, but also pinpoint the origin of a fault with greater accuracy.

All cameras have a 3.2 megapixel digital camera, and have full thermal picture-in-picture, as well as thermal fusion (illustrated opposite).

These are the most suitable models for carrying out in-depth surveys and are used in many applications including R & D, medical and consultancy. A range of additional lenses are available, from close up to wide angle & telescopic, so the camera can be adapted for different applications.

The P series temperature ranges from -40°C to +500°C, whereas the B series ranges from -40°C to +120°C. This can be upgraded to a maximum of +2000°C.

Another advantage of these cameras is the ability to capture radiometric video recording straight to the memory card or output via firewire (640 & 660 only).

Each camera is supplied with 2 x Li-Ion batteries, twin desktop battery charger, mains charger, lens caps, carry strap, QuickReport software, 1GB SD card, Firewire cable (640 & 660 only), headset, SD card to USB adaptor, USB cable, video cable, manual on CD-ROM, calibration certificate and hard carry case.

#### FLIR P620 / B620

Supplied with 24° lens, the 620 model has a thermal sensitivity of 40mK and pan function. Pan allows multiple images to be taken of a large object, these images can then be joined together using either Flir Build IR or Reporter Pro software.

Up to 3 spot meters, box areas or circles can be placed on the IR image, with min/max/avg temperature readings given for each marker.

#### FLIR P640

The standard model is supplied with a 24° lens, however options with a 12° or 45° lens are also available.

The number of spot meters increases to 10, with 5 box areas or circles also added, and one horizontal or vertical line (ideal for measuring cable temperatures).

As well as video recording, the 640 can also be set up to take images every 10 seconds over a 24 hour period.

#### FLIR P660 / B660

The top end model, with all the features of the 640 and the addition of GPS, this shows the exact location of the user when downloaded to Reporter Pro software.

A contrast optimisation feature allows enhances the images for better quality and recognition.





Visual Image



Thermal Image



Thermal Fusion Image

hundreds more products on our website



# Test Equipment

# **Get great prices online!**

If you know what you need, our online ordering lets you place orders at any time. You will find competitive prices and special offers at www.instrotech.com

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